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THE WORLD'S WORK

WALTER H. PAGE, Editor.

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NATHANIEL HERRESHOFF (at the right)

Photographed by J. C. Hemment

JOHN B. HERRESHOFF

THE HERRESHOFFS, WHO HAVE BUILT THE DEFENDERS OF THE *AMERICA'S* CUP

THE WORLD'S WORK

JUNE, 1903

VOLUME VI NUMBER 2

The March of Events

THE two subjects that have recently been most discussed, and most seriously discussed, in the United States are the restraint of trusts and the restriction of Negro suffrage. Upon both these, important and far-reaching decisions by the courts have now been delivered.

The decision of the United States Circuit Court, two months ago, in the case brought by the Attorney General of the United States against the Northern Securities Company, gave life to the long-dead anti-trust law. The "merger" of the Great Northern Railroad and the Northern Pacific Railroad companies into a "holding" company was declared a violation of the law, because it was in restraint of interstate commerce and in destruction of competition. It is not expected by the best legal opinion that the appeal to the United States Supreme Court will be successful.

But it is already clear that, even if the decree of the Circuit Court stands, it will not change the destinies of the human race nor bring havoc to business. At first a cry was raised that we had run into anarchy, that practically every "merger" of corporations was illegal, that all business organization was in peril, and that we should have to go back to the methods of the small days of individual enterprise. The truth is, the decision directly affected nothing but this one colossal combination—the Northern Securities Company—but it will have the indirect effect of discouraging the indefinite merging of merged mergers; and that is well.

The chief effect is moral rather than directly commercial. The owners of these two competing roads will not be thwarted in their plan. They can, if they wish, maintain uniformity of rates without a merger, but they can not perhaps fix and fasten the unity of ownership of both roads so securely for an indefinite period. The decision has not checked legitimate business organization; for no decision and no law can do that. But, through this law and through this decision, public opinion has found expression—that there is a point somewhere beyond which combinations must stop. If it be little more than a warning, it is a serious warning. It will stand as a threat to practically endless consolidation. This decision means, then, that the Government can restrain corporations at some point in their otherwise unending combination; and this gives it significance. The anti-trust law may be changed so that legitimate combinations may not be at the mercy of litigants. But, since it has been proved that such an act can be enforced, it is not likely to be repealed.

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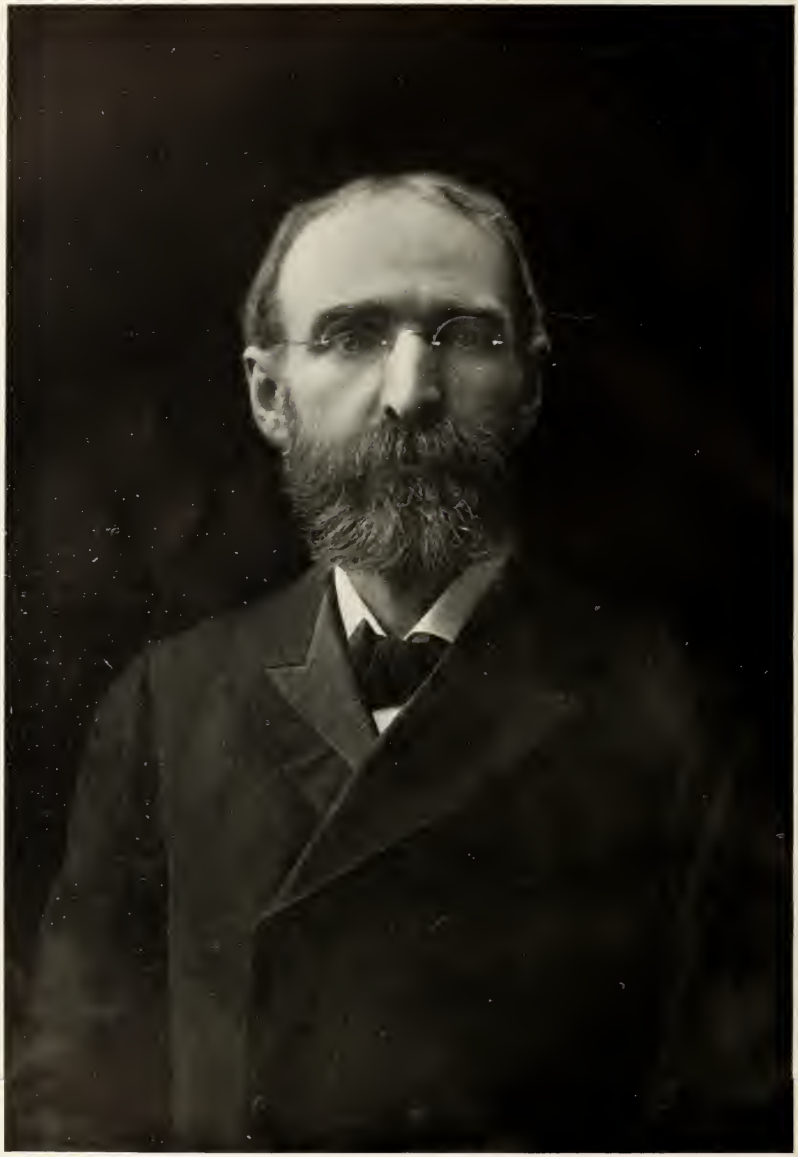

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DR. CHARLES R. VAN HISE

THE NEW PRESIDENT OF THE UNIVERSITY OF WISCONSIN

("See "The March of Events")

Photographed by Frances Benjamin Johnston

DR. C. HART MERRIAM

CHIEF OF THE UNITED STATES BIOLOGICAL SURVEY

(*See "The March of Events"*)

ANOTHER RESTRAINT ON CORPORATIONS

ANOTHER decision that has a similar moral effect was handed down by the New York Court of Appeals, which declared that a law taxing public franchises is constitutional. This decision reversed the decision of the lower court. In New York now, for the purposes of taxation, a franchise of a street railroad, of a gas company, of an electric company, etc., which uses the public streets, above ground or beneath it, becomes property as if it were real estate, and is taxable on its appraised valuation.

This is a new application of taxation. Not only will it bring an enormous addition to the revenue of New York City, but, more important still, it also (as the anti-trust law does) declares that corporations are within the power of the law. Like the great merger case, it has a moral value. This also will be appealed, but it is not thought that the decision will be reversed by the United States Supreme Court. It is doubtful whether the Supreme Court will find that it falls within its jurisdiction.

Public opinion in general approves both these important decisions. They are, in fact, the voice of public opinion speaking through the courts. Both the United States anti-trust law of 1900 and the New York franchise tax law were enacted in response to the public demand. But the enactment of the New York law and the enforcement of the United States law were both due to the personal earnestness and energy of Mr. Roosevelt. This New York law was his most conspicuous achievement as Governor; and the enforcement of the United States law is the result of his insistence as President. It has thus happened that both these checks to corporate power have been administered at his hands. One of them "shelved" him in the vice-presidency. The other also has won for him the opposition of what Mr. Bryan used to call the "capitalistic" class and press.

THE MORAL AND POLITICAL EFFECT OF RESTRAINTS ON CORPORATIONS

THE consolidation of corporations and their acquisition of free privileges have been going on at a rate that made thoughtful men as well as the larger public wonder what the final consequences would be. By the creation of "holding companies" and other ingenious devices, it seemed theoretically possible that the transportation machinery and a large part of the mines and factories of the country might pass into the hands of a small group of great captains of organization. Worse than this, it seemed theoretically possible so to consolidate them that they might become fixed and remain almost as one property. The new processes of consolidation not only concentrated power in the hands of men now living, but, conceivably at least, made the consolidation so compact and permanent as to permit its transmission in unbroken bulk to succeeding owners.

At some time, therefore—far off, perhaps, but surely at some time—this question seemed sure to arise: Who owns the very foundations and instruments of prosperity, the people or a few great corporations controlled by a few men? When a time of depression came such a question was sure to be asked with greater earnestness than it has ever been asked hitherto. And in this direction lies the danger of something like State socialism.

It is this continuous merging of mergers, generally with more watered stock at every step in consolidation, that has made European financial opinion of us hesitant of approval in all quarters and critical in some. The process of consolidation must end in disaster at some time. A bad crop might precipitate it. Certainly some untoward event would bring a crash. Then radical legislation would follow. A public opinion which is quiescent in prosperous times would become savage and revolutionary in lean times; and the fall of artificial values would drag down real values.

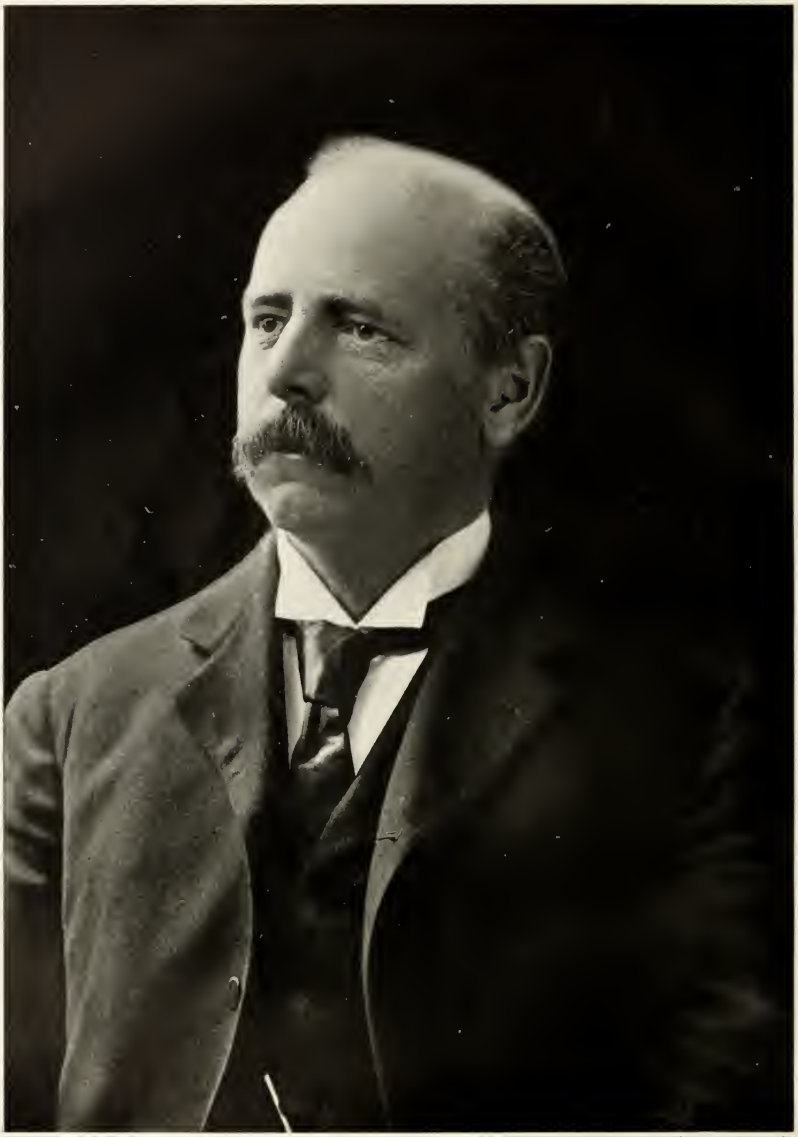
It is here that the good moral effect of these checks to corporations comes in. They are not destructive of business enterprise. They will not prevent any desirable railroad consolidation under other forms, nor will they do any hurt to legitimate organization. On "legitimate" corporations they will have little effect. But they will act as a conservative influence. For the salutary point is, they do make plain the power of the people to deal with corporations. They act on the corporations as a wholesome threat and on public opinion as a deterrent from more radical measures—at least, so long as the temper of public opinion is kept mild by prosperous conditions.

It is unnecessary to say that this subject will play an important part in next year's

M. J. J. JUSSERAND

FRENCH AMBASSADOR TO THE UNITED STATES

(See "*The March of Events*")



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DR. WILLIAM T. COUNCILMAN

PROFESSOR OF PATHOLOGY IN THE HARVARD MEDICAL SCHOOL
AND THE DISCOVERER OF THE GERM OF SMALLPOX

(*See "The March of Events"*)

presidential election. So far as public opinion may now be measured by guess, Mr. Roosevelt has won the displeasure of the "capitalistic" class without doing damage to business. The conservative business interests of the country, therefore, will be rather pleased than displeased. And he has won the approval of conservative public opinion in general. The radicals of both camps are dissatisfied—one because he has gone so far, the other because he has not gone further. One says that he has thrown business organization into chaos; the other, that he has merely tampered with the trusts rather than restrained them. From a political point of view, such a position is not without its dangers; but its advantages outweigh its disadvantages by much.

More important than the political is the scientific view of the subject. We are breaking new ground. We are making our way by experiment toward safeguarding the public welfare without checking legitimate business enterprise. From this point of view these decisions and all that they imply are positive but conservative steps forward.

THE SUPREME COURT AND NEGRO SUFFRAGE

THE decision of the Supreme Court of the United States, in the case brought with the hope of testing the constitutionality of the restriction of suffrage in Alabama, means this—that the Court found the subject, as it was brought before it, outside its jurisdiction. It is a political matter and belongs to the political department of the Government. In other words, the Court holds that the regulation of the suffrage is a subject for Congressional or State determination.

The well-known facts are these: The amendment to the constitution of Alabama whereby the suffrage is restricted is, in avowed intent and in effect, aimed at the Negro. If the restriction were a frank restriction based on either an educational or a tax-paying qualification, or on both (such as Massachusetts has), there would be no doubt of its constitutionality nor of its propriety and practical value. Enlightened public opinion in every part of the country is well nigh unanimous in favor of a frank restriction of the suffrage in the southern States made without reference to race. But the rub comes at the "grandfather clause," whereby illiterate whites are admitted to the franchise and illiterate blacks are excluded. In other words, the suffrage is really restricted on race lines.

There is no doubt that this is a violation of the United States constitution, in spite of the ingenious form that it has taken to avoid the violation of its letter. A case was brought several years ago to test the corresponding clause of the Mississippi constitution, with a practically similar result; and another case is pending to test the new disfranchising constitution of Virginia.

The result probably foreshadowed by this decision in the Alabama case is that the Supreme Court will not overturn these disfranchising amendments to southern constitutions. The subject will be dealt with, if it be dealt with at all, by Congress. Congress can deal with it by refusing to seat southern members whose election it regards as secured by improper restriction of suffrage and by reducing southern representation. Whether Congress will do either of these things remains to be seen.

But whatever be done or whether anything be done, the South has practically disfranchised the Negro, and will keep him disfranchised for a long time to come. Dominant southern opinion is increasingly earnest in its insistence that he shall remain practically powerless at the polls whenever his vote threatens white supremacy. The South may be punished by Congress, but it will not recede from this position. It would suffer a reduction in its Congressional representation rather than restore the suffrage to the mass of the Negroes, or disfranchise illiterate whites.

The political status of the blacks may be regarded as fixed as, in fact, it has been fixed since the end of the reconstruction era. The Negro was practically disfranchised as soon as the carpet-bag governments were overthrown. Either he was frightened from the polls or his vote was counted out wherever he threatened to secure control, before these restrictive amendments to the suffrage took the ballot away from him under the form of law. The Fifteenth Amendment, therefore, has long been, is, and will indefinitely be a dead letter wherever the Negro is thought to threaten white control.

Even if the disfranchising amendments to these southern State constitutions were

declared unconstitutional, the ballot would not be restored to the Negro or he would not be permitted to use it on the same conditions as the white man has it; for, in those southern States that have no such amendments—Georgia, Tennessee and Florida, for examples—he is excluded from political power as effectively as in South Carolina and Mississippi and Louisiana. Military force, or the fear of it, and nothing less, put the Negro in the South for a time in full possession of the ballot, and nothing else can do it again, under present conditions.

THE FAILURE OF POLITICAL METHODS IN THE SOUTH

SO far as practical results are concerned, then, it matters little what the Supreme Court does or what Congress does. They touch the theory rather than the stubborn facts. The establishment of universal manhood suffrage in the South has been tried and it has failed. A restricted suffrage was a logical next step; but the restriction has been made so as to discriminate against the Negro. The South can be punished politically by reducing its representation in Congress, but its conduct cannot be changed by punishment. The ailment is too deep-seated for mere political treatment.

These States have never been real democracies. In reconstruction times, small groups of carpet-baggers held power by the help of the Negroes. Since then the whites have held power without reference to numerical strength. The problem is to make a democracy possible there. That task can be done only in one way, and that way is to train the people to a higher level of economic life. There is no other radical solution. A democracy must be based on economic efficiency and general intelligence. It cannot be superimposed on ignorant masses. The foremost patriotic duty of our time, therefore, is to educate the southern masses of both races to economic efficiency.

Efficient men who are economically strong are the only sort of material of which anything like a real democracy can be built. The fundamental need is the training of all the people.

THE SOUTHERN EDUCATIONAL CONFERENCE

THE strongest force for building up southern life to a democratic height of economic efficiency is the present active southern education movement, which is gathering such force as few popular movements in our day have had. The annual conference, which was this year held at Richmond, Virginia, brought together a large body of the foremost men and women from all the southern States, and a group of noteworthy men and women from the North as well. The zeal they show in arousing public opinion to the necessity of educating the southern masses is as earnest as it is well-directed.

The most important institutions in the southern States, such as the universities of Virginia, of North Carolina, of Georgia, of Tennessee, of Mississippi, such universities as Vanderbilt at Nashville, and Tulane at New Orleans, and practically all the colleges under church control, were represented by their presidents; and the superintendent of public instruction from nearly every southern State was present. Business men and professional men, too, from every part of the South went. It was perhaps the most noteworthy gathering of southern men for a purely disinterested public purpose that has been held in many years. Some of the speeches were made by northern men of note, and the conference was held under the presidency of Mr. Robert C. Ogden, of New York, by whose remarkable organizing ability it has grown year by year; but its work and spirit and membership are southern. To further its ends every strong force in southern life is united to build up the people, by every kind of educational machinery, from the rural public school to the church colleges and the State universities.

They all grasp the philosophy of the situation—that untrained masses in a democracy are a menace, whether they be white or black; and that the training of all the people is the only safeguard of a democracy. Differences of method and local jealousies (if there be such differences and jealousies) are sunk in the common purpose. Old-time sectional differences are obliterated. Northern opinion and southern opinion agree on this—that proper universal training is a national patriotic duty. There is, perhaps, no other "movement," to call it such, that has such a volume or unanimity of moral enthusiasm behind it. The political, educational and social forces of the South are committed to it; and no section of opinion that has weight withholds

its support. These southern leaders have welded together every strong influence, and they have won the admiration, and they are entitled to the hearty coöperation, of the whole country—of men of all shades of political opinion.

Mr. Carnegie's gift of $600,000 to the endowment fund of Tuskegee Institute is coöperation of the most helpful kind wisely bestowed. Many such gifts can be most helpfully used by institutions for whites and by institutions for blacks; and there is no better way to encourage such benefactions than by conferences like this one held at Richmond. The great leaders in Southern education can give a better direct return for money spent in furthering their work than any other class of men who are engaged in lifting the level of life in the republic.

LAYING THE FOUNDATIONS OF A DEMOCRACY

THE southern education conference touches neither political nor religious nor social nor race controversies, nor controversies of any sort whatever. But the ultimate relation of this educational revival to every southern problem is obvious. When there are no illiterate white men in the South there will be no need of laws discriminating in favor of white illiteracy. From whatever point of view the large subject be regarded, education—the proper, free, universal education of each race—is the only way out and upward. With the present large body of illiteracy and personal worthlessness, born of ignorance and a lack of training, the economic basis of life is necessarily low; and a low economic basis of life is the fertile soil of all sorts of problems and difficulties in a democracy. With training to a high economic efficiency, "problems" and difficulties will disappear.

It is for these reasons that what may in a comprehensive way be called the southern problem shows a more hopeful outlook now than it has shown before, in spite of the unpleasant obtrusion of its merely political aspects. These are, after all, not its fundamental aspects. Whatever were the political conditions, so long as there is a body of ignorance weighing down citizenship with its heavy burden there could be no radical cure of the ills that this generation has inherited from its predecessors. The teachers hold the key of the South's larger, fairer, better future; and they show a moral earnestness that few other classes of workers among us can match. They are entitled to the gratitude of the country and to the coöperation of all patriotic men. They attack the problem in a radical way. Their work makes for the development, among the people themselves, of a real democracy. And they are southern men working in fact by the very plan that Jefferson himself laid down—a plan for universal education that was checked by the growth of slavery. This is the hope of the South and of the development of its people till they shall again contribute their full share to the intellectual, moral and economic character of the republic and become national in their thought and ambitions.

THE RUSSIAN DANGER TO PEACE IN ASIA

WAR between Japan and Russia may not be imminent, eager as the Japanese are for it; but it is one of the unhappy events to be feared in the future. Japan has never forgiven Russia for cheating her out of the fruits of her victory over China.

Russia's recent questionable conduct with regard to Manchuria has made the matter worse. It has, indeed, made the confidence of all nations in Russian frankness somewhat less, if any profound confidence in it were left. Russia occupied Manchuria when the Boxer outbreak occurred, and she has important interests in this great northern Chinese province. When all the allied powers agreed to abstain from taking Chinese territory and to keep the doors open to trade, Russia agreed to give up her virtual control of Manchuria. The evacuation was to be made of different parts of the province at stated intervals.

But the news was lately reported from Peking that Russia had made such demands of China as meant the retention, or practically complete control, of Manchuria. So violent a breach of the international agreement were these demands that most of the powers made inquiry about them. Thereupon Russia gave assurance to the United States among other powers that she had no intention of permanently occupying Manchuria except for police purposes; and it was declared that she had done nothing further than to make "inquiries" at Peking touching the acceptability of certain proposals to China—an explanation that is officially accepted but that is hardly convincing.

The most noteworthy thing, however, about this so-called "inquiry" is that it was made at a time when affairs in the Balkans had, because of Russia's clandestine incitement, assumed such dangerous aspects that the continental European powers were unable to pay even ordinary attention to affairs in the Far East.

If Russia secures permanent control of Manchuria—or, to express the thought more accurately, *when* Russia secures permanent control—the door will probably be closed to American, British and Japanese trade; and then will come the danger-point. There is no danger that our country will go further than remonstrance; but the smoldering hostility of Japan may break out, and England has a treaty with Japan which may possibly draw her into active trouble.

Russian and English conflicts of interest nearer British India are a constant source of uneasiness to British statesmen. If danger of a conflict between these two great powers should arise about Manchuria also, the settled peace of the world might suffer a disturbance that would bring the gravest consequences.

England has definitely announced that no other power shall establish a naval base or fortification on the Persian Gulf. This is a direct warning to Russia touching encroachments in this quarter of the world; for a naval base on the Persian Gulf would carry with it the possibility of attacking England's trade route to the East.

RUSSIA OR JAPAN TO CONTROL IN ASIA

RUSSIA is thus likely, perhaps certain, to break faith with the powers and sooner or later to make sure of her control of Manchuria, be the consequences what they may. Looked at from St. Petersburg, the subject takes a patriotic coloring. In the eyes of Russian diplomacy Manchuria is a necessity. The struggle is a struggle for access to the sea. The trans-Siberian railroad ends at Valdivostok, which is ice-bound during the winter. The branch road south to seaports that are open all winter runs through Manchuria; and it is for the security of this road and of these ports that Russia is earnest.

Here, then, are the elements of a race-struggle and a world-struggle. Russia, with Pacific ports open all the year and with control of Manchuria, would, in time, push into other Chinese provinces; and she would keep Japan off the mainland. If Japan, on the other hand, were to get a secure footing in Manchuria, the Japanese ambition would be ultimately to lead the Chinese out of their isolation. It does not require a violent use of the imagination to see the possibilities of a struggle in this situation which will reach over a long period—a struggle for the mastery of countless hordes of Chinese. Under Japan's leadership it would be yellow men's leadership of yellow men. Under Russia it would be the yellow race under the leadership of the Slav.

The immediate question is the question of an open door for trade and of Russia's keeping faith with her allies who punished the Chinese for the Boxer atrocities. But the real question runs much further forward. It touches the control of a large part of Pacific Asia and the ultimate relative power of Russia and Japan.

There is, therefore, no more momentous subject in world politics than this; for it involves in a measure the one great question of the future—whether Russia is to dominate the Asiatic world. It involves also the future of Japan, and the future of Japan means this—whether any branch of the yellow race is really to come into great leadership.

The Japanese feel that they have fairly won a stronger place among the nations and that they have been cheated out of the chance for expansion. Expansion means a foothold on the Asiatic mainland. A foothold on the Asiatic mainland may mean ultimate control of a large section of China. It surely would mean a larger power than the empire can hope to have so long as its population is confined to its island. They now number 45,000,000.

When the Japanese-Chinese war ended with victory for Japan, the Japanese demanded a concession of a part of the mainland. China was powerless to resist and was even willing to get off so cheaply. It was then that Russia stepped in. Japan was in a mood to fight even Russia, but Germany and France also stood against her. It was a union of these great European powers against the ambition of the Japanese. At that time England could have turned the scale in favor of Japan by risking a war; but this Lord Salisbury's government was unwilling to do.

The Japanese, therefore, were denied the fruits of their victory.

Now, in this practical acquisition of Manchuria by Russia, Japan sees the next chapter in the deliberate plan to exclude her from the Asiatic mainland. Having fairly won by industry, by the arts, by governmental reforms, and by war a place among modern powers, she finds herself hindered from expanding in her own hemisphere by powers of the other half of the world—hindered by the nations whose civilization she has imitated from reaping the rewards of her ambition and power. This must seem to the Japanese mind an intolerable situation. War will come out of it at some time, for 45,000,000 of Japanese feel cheated and aggrieved.

THE GREAT NATIONS' TRADE GAINS IN THIRTY YEARS

THE Bureau of Statistics of the Treasury Department at Washington has issued the first part of its comprehensive history of the commerce of all the principal countries in the world. The most striking facts set forth are the rapid growth of the foreign trade of the United States, of Holland and of Japan during the last thirty years.

Our exports and imports are now more than $2,250,000,000 a year—nearly three times what they were three decades ago. During the same period England's exports and imports have increased only 62 per cent. and Germany's 60 per cent. Holland shows an increase from $340,000,000 to $1,250,000,000; for her trade has been multiplied by four and one-half. Japan's foreign trade has been practically created within this period. In 1870 it was only $40,000,000 and it is now more than $250,000,000. Canada also has made a prodigious advance.

This comparison of the totals of exports and imports of countries is not an accurate measure of prosperity nor even of material growth. A large part of the imports into Great Britain, for instance, are breadstuffs, whereas a considerable part of the imports into the United States are raw materials that are used in manufactures. The economic meanings of these different sorts of imports are very different. But in a rough and general way these incomprehensible totals do indicate the large movements of commerce. They tell, for instance, an important story of the increasing interdependence of nations. Great Britain, the United States, Germany and Holland thirty years ago had a foreign trade of $4,708,000,000 (if anybody can comprehend that), and now they have $9,600,000,000—an increase of about 100 per cent.

The three leading nations now stand in this order with respect to their total foreign trade:

The United Kingdom . .	$3,573,000,000
The United States . . .	2,258,000,000
Germany	2,254,000,000

A more accurate indication of the prosperity and progress of any of these countries, especially of our own country, would be the volume of its internal trade. What we buy from one another and sell to one another tells the true tale of our wealth and activity.

SIDELIGHTS ON THE PEOPLE'S ENRICHMENT

IT is not only such large facts as the increase of our foreign trade that constantly surprise us. There are smaller measures of our physical progress that are amazing. The census office, for instance, has issued a report on the growth of street railroads during the last twelve years, which shows that the length of street-car lines has increased from less than 6,000 miles to more than 16,000; the length of single track from 8,000 miles to more than 22,000; and the number of passengers from 2,000,000,000 to nearly 5,000,000,000. Of course these years have been years of the natural extension of street railways because of the application of electric power. But these figures show a change of habit by a very considerable proportion of the population and have an important social significance. An amazing fact, for another reason, is that during these twelve years 1,216 persons have been killed by street-cars and 47,428 injured. Clearly we have not yet learned how to manage them—or how to keep out of their way.

Another sidelight on our prosperity and on the habits that it begets can be read between the lines in which these figures are printed: that thirteen new theatres are now in course of construction in New York City at a cost of more than $8,000,000, and thirty-five or forty more in other cities in the United States at a cost of $10,000,000. Since most of these will be devoted to mere diversion, and few to the dramatic art in its most

ambitious forms, these figures give a hint of our growing investments in one conventional relief from toil.

PERSONAL AND CORPORATE HONESTY

ONE man in New York is reported to be a member of sixty-nine boards of directors of corporations; and there are other men who approach this figurehead versatility. For, of course, the holding of seats in many of sixty-nine boards is a farce, whoever holds them; and the holding of so many directorships is a confession that directors do not direct.

It may be said in defense of boards so made up that such a man as this properly holds merely nominal directorships representing an investment in each corporation, with the understanding that the active managers of the corporations shall do all the work and that the directors shall simply hold such a relation to the business as to be able to become active at any time when their activity might become necessary. And many corporations are organized and conducted in this way. The directors are expected to be inactive except when new managers are required or when something goes wrong. And this is legitimate—provided the directors are also the real owners of the corporation.

But to read of men holding directorships in sixty-nine companies, or in fifty-nine, or in forty-nine, or even in thirty-three—and these are all real instances—is to understand at once why the development of corporate honesty has not kept pace with the development of individual honesty in business affairs. The increasingly effective organization of commerce has greatly reduced the cases of personal dishonesty. In dealings between individual and individual the world of business is much honester than it was a generation ago. A merchant who misrepresents his wares cannot so easily succeed as he once could, and the necessity of holding one's credit unimpaired has made for integrity.

But many a man who is scrupulous in all his personal dealings will permit the agents of a company in which he is a director, or a "syndicate" of which he is a member, to misrepresent facts about it. At any rate, many a man fails to regard it as his duty to see that no such misrepresentations are made. Personal responsibility becomes weak. To permit some other person to lie in your behalf—or to fail to prevent his lying—is not regarded as quite the same thing as lying yourself. The growth of honesty, like the growth of any other quality, depends on the social pressure to make it a necessity. But what degree of responsibility could a man have for sixty-nine corporations, or what personal knowledge of their management?

These are very old-fashioned remarks. But if the investing public took the trouble to get the same careful knowledge of corporations before they bought shares that they get about a man before they will lend him money or give him credit, a very considerable percentage of corporations would go out of business before next year, as one thousand had their charters revoked a little while ago by the Governor of New Jersey because they had not paid the small taxes levied on them in that State.

THE DECREASE OF LYNCHINGS

SINCE no accurate official record is kept of lynchings, it is difficult to know in which direction we are going—toward their increasing frequency or toward freedom from them. It is a good service, therefore, that Mr. J. Elbert Cutler, a post-graduate student of Yale University, has done in tabulating all the lynchings that he could get verification of as having occurred during the last twenty-one years. Out of his study of the ghastly subject comes good reason for hope that they may become infrequent in time—a generation or two, perhaps.

In twenty-one years 1,872 Negroes have been lynched and 1,256 whites. Since the whites are about six times as numerous as the blacks, the proportion of Negroes lynched is, of course, very much higher than these figures indicate. Only 35 per cent. of these Negroes were lynched for the social crime that is usually associated in the mind with this method of punishment. Sixty-five per cent. were, therefore, for other offenses. Mr. Cutler's study of the subject leads to the hopeful conclusion that lynchings will continue to decrease even more rapidly in the future. Since 1892 they have continued to become fewer; and in those States where prisoners are promptly tried for crimes of violence they occur very seldom. These are the two cheerful facts that he presents.

REFUSING A PUBLIC TESTIMONIAL

MR. FOLK, the circuit attorney of St. Louis, who did such noteworthy public service in bringing the corrupt officials of that city to justice, has declined a testimonial offered by admiring citizens. A committee proposed to give him a residence as an evidence of the community's appreciation. It was a proper feeling that prompted such a plan, and it would be hypercritical to say that a man would do wrong to accept such an evidence of public appreciation. Yet it is with satisfaction that one reads of the polite refusal of the gift. It indicates a certain robustness of character that ought to give Mr. Folk's admirers a greater pride in him. He has not been discourteous to them, but he has saved himself from the possibility of feeling at some time that he is under obligations to some one for something that he did not earn. Public favor is fickle, too; and on occasions before this "testimonials" of such a kind have been regarded by the public as carrying with them some implied obligations of sentiment that caused embarrassment.

But it was not the thought of possible embarrassment in the future that caused Mr. Folk's declination so much as the instinctive feeling that no man deserves a special reward for doing his duty; and the giving and the receiving of special rewards lead away from robustness toward sentimentalism, which has no place in public life.

MR. CARNEGIE'S LATEST BENEFACTIONS

A TEMPLE of peace and a great law library at the Hague, a building for all the engineering societies in New York City, a large addition to the endowment of Tuskegee Institute for the training of colored youth, a help to Mr. George W. Cable's home-study society, the defraying of the expenses of fever-stricken students at Cornell University—these are some but not all the benevolent activities of Mr. Carnegie just before he sailed to deliver the presidential address of the British Iron and Steel Institute in London and to spend the summer in Scotland.

A great building at the Hague, as the home of the Court of Arbitration, to cost $1,500,000, will be the most eloquent passage in all Mr. Carnegie's arguments for peace. The Government of Holland has accepted the offer, subject, presumably, to the approval of the powers that organized the tribunal; and they can hardly afford to refuse it.

Mr. Carnegie is thus making some very interesting experiments in his effort to discover how a rich man may prepare to die poor. The wise giving of money seems easy to those who have none to give; but it is one of the most difficult tasks in the world. Do it as a man may, he will not escape criticism. These enterprises that he selected for help this year are all alike in this—emphasizing industry, peace and education, they are undertakings that must be done by gifts or not done at all.

THE INCREASING CLASS THAT RESTS

THE men who are at work are the men who make the noise that fills the newspapers. They rush to their labor and go furiously at it; they rush home again; and they rush to the theatre for amusement. Even in the summer their vacations are hurried or they are filled with other work and other plan-making. Thus we come to think of ourselves in terms of billions of trade, of continuous combinations of industry, of the noise that the most strenuous part of the population is forever making. Doubtless the conception of the typical American of our time—as a man absorbed in his struggle not so much for money as for success, is the right conception; for we are bringing things to pass at a break-health rate.

Yet there is a quieter part of the population that is discovered at this time of year by the busy when they go into the country. When the overworked man rushes away from the city for a season he encounters a neighbor who has led a quiet country life all winter long. The number of sane men who retire before physical infirmities overtake them is very rapidly increasing. Having earned a competence, they yield either to the impulse to see something of the world and they travel, or to the impulse to get close to Nature and they go to the country for permanent residence. The building of country homes in every attractive part of the land bears testimony to this tendency. The class that rests increases very rapidly every year of financial success.

It doubtless will be a long time before we have a large idle class in the sense that the rich summer colony at Newport is an idle class—a class that has more time than it has

sensible resources for diversion; but the quiet life has not been forgotten in our rush for material success. There is a saving quality in American common sense which pays heed to nerves when they become tired and to indigestion when it continues to assert itself; and the instinct of self-preservation is, after all, stronger than the ambition for wealth or power. It is from this well-to-do and well-balanced resting class that the strongest men and the loveliest women of the next generation will come. They will have the mixture of the country without the isolation of rural life of two generations ago.

THE PULLMAN-CAR DISEASE

THERE is an ignorant public that knows no better, there is a commonplace public that does not care, and there is an abject public that pays its fare and asks no questions—all together making a public that has submitted too long to the bad taste shown in the finishings and furnishings of Pullman cars. Those blue tassels that catch dirt and convey disease, those indescribable hangings that give one a feeling of suffocation—all these, when for less expense the beautifully polished wood, if left plainer, would give a sense both of cleanliness and of dignity.

Everybody goes in parlor cars or sleeping-cars at some time, and a railroad ride comes as near to being a time of meditation as many men and women get. They become accustomed to these absurd trappings. Many hotels take the cue; and, while you are away from home, you live with this same parlor-car scheme of things. You now even find on the furnishing counters of the department stores the same kinds of hangings and decorations. They look familiar to the thoughtless house-furnisher and they thus find their way into homes, especially into apartments. The parlor-car apartment is a well-recognized esthetic disease in most of our cities.

There is a heavy educational responsibility—a heavy public responsibility—resting on a great company like the Pullman Company. It could save much money and make its cars more beautiful by leaving off gold paint from places where it does not belong and by discarding tassels and fringes and much other out-of-place ornament.

And there is a worse chapter in this story than the chapter on Bad Taste. It is the chapter on Death. Sleeping-cars in which consumptives travel are at some places required by law to be disinfected, but they are not so required at all places to which these unfortunates go, though the Pullman Company disinfects the cars on any suspicion that invalids have used them. And it is a proper question whether a consumptive ought to be allowed to travel in a sleeping-car with well persons.

AN INTERESTING GROUP OF CONTEMPORANEOUS MEN

IN a number of THE WORLD'S WORK in which much space is given to show the value and charm of vacation, it is proper that portraits should be published of the great yacht-builders, the Messrs. Herreshoff, who have the distinction of having carried excellence in their craft further than any other men in the world; and of Doctor C. Hart Merriam, the head of the United States Biological Survey, whose summer labors lay the foundation of such a knowledge of animal and botanical life on our continent as has never yet been made of any large part of the earth. A variety of interesting personalities now in the public attention are M. Jusserand, the French Ambassador to the United States, who is, by his graceful activities, making himself *persona grata* to the American people as well as to our Government; Doctor Van Hise, the newly chosen President of the University of Wisconsin, which, following the examples of Harvard, Yale, Johns Hopkins and Princeton, selected one of its own faculty; and Doctor Councilman, of the Harvard Medical School, who recently announced the discovery of the germ of smallpox.

A MODEL FINANCIAL CAREER

THE career of the late Mr. George G. Williams, for twenty-five years president of the Chemical National Bank in New York, is as good a model as can be found in the whole history of American finance or business. He entered the service of the bank as a boy in 1842—sixty-one years ago. He regarded his engagement as a career, not as a job. He spent his whole life in the service of this one institution, and under his direction and by reason of his character it became one of the foremost banks in the world. It is a distinction in the commercial world to have an account there; and so profitable has it

been that its stock is worth forty-five times its par value. It is one of the very few banks that has never paid interest on deposits. Mr. Williams had the distinction of being regarded as an "old-fashioned" banker—which is to say that he and the bank had such strength by reason of their character that they maintained their high place as other banks went up and down. This story of the way in which Mr. Williams drew accounts and kept them is typical of hundreds, perhaps thousands:

"When I started in business for myself," said the man who told the story, "I went to Mr. Williams with a mere formal note of introduction and I said to him: 'Mr. Williams, I have little money, but I have a good record. I am going into business for myself. I wish to identify myself with the Chemical Bank because I want to be the kind of business man that you and the bank believe in. I shall need credit. Will you look up my career?'

"After some conversation Mr. Williams said: 'I think you will succeed. Open your account here and let me know when you need money. The best customers a bank can have are young, honest and intelligent business men, who, as they succeed, will stick to the bank that has helped them when they needed help. This bank has been built up by such men.' There was something in his manner that won me and made a friend for life. He was as good as his word. There was a man that believed in me from the start. He banked on my character and showed it in a way that was distinctly a good business policy." It showed that half a banker's task is to judge men well.

AMERICAN VERSUS ENGLISH WORKING CONDITIONS

THE REPORT OF THE MOSELY COMMISSION OF BRITISH WORKMEN TO THE UNITED STATES—WHEREIN THE AMERICAN ADVANTAGE CONSISTS

THE report of the Industrial Commission of twenty-three representatives of the principal English trades-unions which visited the United States and Canada last winter by the invitation and at the expense of Mr. Alfred Mosely is a volume which ought to be read by every employer of labor and every intelligent workman. Mr. Mosely rendered a distinct service by his idea of this commission and by the care and generosity with which he has carried it out. And every American reader will wish to see what reports most of these British workmen have produced. Several of them are of extraordinary interest, though among the number it is clear that some delegates did not possess the ability and that others did not take the trouble (one, for what cause is not stated, does not report at all) to avail themselves to the full of the opportunity afforded them.

It is impossible to summarize the opinions and information, covering a wide area and often highly technical, given by the delegates, but a few quotations upon the main questions will serve to show the general conclusions. Mr. Mosely himself contributes an interesting and suggestive preface. He does not always agree with his delegates, but he has had at least equal opportunities with them of forming his opinions. We give some of these in his own words:

"The true-born American is a better educated, better housed, better fed, better clothed and more energetic man than his British brother, and infinitely more sober; as a natural consequence, he is more capable of using his brains as well as his hands. One of the principal reasons why the American workman is better than the Britisher is that he has received a sounder and better education, whereby he has been more thoroughly fitted for the struggles of after life.

"The manufacturers do not hesitate to put in the very latest machinery at whatever cost. A man in charge of a large department said to me, 'One of the reasons of our success is the readiness of all our men to drop existing modes of production as soon as it is demonstrated that there is something better.' Labor-saving machinery is widely used everywhere, and is encouraged by the unions

and welcomed by the men, because experience has shown them that in reality machinery is their best friend. It saves the workman enormous manual exertion, raises his wages, tends toward a higher standard of life, and, further, rather creates work than reduces the number of hands employed.

"I am convinced that British manufacturers, if they are to obtain the best efforts from their workmen, must come to an understanding with the unions as to a fair piece price, from which there shall be no 'cutting' when the men earn large wages. In many trades a joint committee of employers and employees meet periodically to settle rates for piece-work by mutual consent."

. . . . . .

"That the American workman earns higher wages is beyond question. As a consequence the average married man owns the house he lives in, which not only gives him a stake in the country, but saves payment of rent, enabling him either to increase his savings or to purchase further comforts. Food is as cheap (if not cheaper) in the United States as in England, whilst general necessaries may, I think, be put on the same level. Rent, clothes made to order, and a variety of things, including all luxuries, are considerably dearer.

"The American workman drinks but little, and his house is usually well furnished and fitted with luxuries in the way of bathrooms, laundries, hot-water and heating systems, and other items mostly unknown to the British workman.

"One of the points the delegates were invited to investigate was whether or not the workman in the United States 'wears out' faster than the Englishman. Personally, I think not. It is generally admitted that the American workman, in consequence of labor-saving machinery and the excellence of the factory organization, does not need to put forth any greater effort in his work than is the case here, if as much.

"In American factories, speaking generally great attention is paid to the necessities and comfort of the workers. It is not a question of philanthropy, but of practical business."

. . . . . .

"Suggestions are welcomed (usually a box is provided for their reception), the more so because the American manufacturer has realized that it is not the man sitting in the counting-house or private office who is best able to judge where improvements can be made in machine or method, but he who attends that machine from morning to night. Hence the employer asks for suggestions for the general conduct of the business, as well as for improvements in machinery. These are freely offered and periodically examined, and, if entertained, the originator of them usually receives at once a small money gift, whilst for those found practical upon full trial and ultimately adopted he is given handsome remuneration in the shape of a portion (or sometimes the whole) of the resulting profit, promotion, or purchase outright of the idea by the employer.

"In short, the man feels that the work of his brains will handsomely benefit himself. Is it any wonder, therefore, that American machinery is continually changing and improving, that the evolution of methods is ever and rapidly going on? Every hand in the factory, man or boy, woman or child, is constantly striving to discover some improvement upon the existing régime, simply because it means profit to themselves.

"Has such a system ever been tried here? Except in quite isolated cases, I think not. As a rule, the British employer hardly knows his men, seldom leaves his office for the workshop, delegates the bulk of his authority to a foreman, whose powers are arbitrary, and who, if any of the men under him show particular initiative, immediately becomes jealous, and fears he may be supplanted. Hence, as a rule, a workman making a suggestion to the foreman (the proprietor himself is usually not accessible at all) is met with a snub, asked, 'Are you running this shop or am I?' or told, 'If you know the business better than I do, you had better put on your coat and go.'"

. . . . . .

"That already America has her eye on the export trade is plain to every one except the wilfully blind, but at present she is only getting ready. The acquisition of so large a portion of the Atlantic carrying trade is in itself an object lesson. When America wishes to export goods she intends to dictate freights, which she could not do if she had no mercantile marine of her own. The profits of the shipping business are to her quite a secondary consideration at present, compared with the ability to rule freights when it suits her to do so. It must be remembered that the American manufacturer or financier looks well ahead, and is prepared to make large present sacrifices for the sake of future gain."

To come now to the working-men's opinions—they are virtually unanimous upon many points—that many American workshops are ahead of the English in machinery; that the big employers seek the best machines at any cost; that employers and employed are on more familiar terms; that greater attention is paid to the comfort of the workmen; that the American workman drinks less; that he does not bet on horse-races; that, on the whole, he is better off as regards money, but that his home life is not so good as that of the best British workman, and, strangely enough, that he is not always the "hustler" he is usually believed to be. At the same time, they agree that he

works longer hours and gets more done. One of them writes:

"I have come to the conclusion that the American molder turns out something like 25 per cent. more work than the English molder; 10 per cent. may be said to be due to extra effort, and the other 15 per cent. to better facilities."

And another reports:

"It must be considered that all who were working in connection with machinery were working as hard as possible, not in the sense that one could see them sweating or straining, but the machinery was running at the highest speed, and the operators—to make use of a Yankeeism—had to keep their eyes skinned and their fingers at work. . . . The workers, in a general way, worked enormously hard, particularly the lasters and finishers. It may be that the atmosphere, which is very bright and exhilarating, as compared with our own, might have something to do with what I look upon as their natural rush."

A third says:

"There is little difference between them when they are employed under similar conditions, but the general go-ahead policy of the Americans enables them to make the most of their opportunities for earning good wages, especially when employed on piece work."

The following extracts from the reports of the delegates speak for themselves:

"There appears to be no expense spared in developing and training the young mind in the United States—every branch being taken of technical, scientific and commercial education, and the willingness to learn displayed by the student was a pleasure to see. The outlay must in the end give a grand return to the people of that country, and the example given might well be copied by the authorities of our own country, for, whatever may be said to the contrary, it cannot be denied that we are lacking in technical knowledge. If we are to be in the race for supremacy we shall have to be up and doing, and our young men will have to throw more energy into the subjects mentioned, or otherwise we shall soon be in the rear."

"The factory of the National Food Company, for splendor of design, attention to the needs of the work people and public spirit, generally, excels anything I have seen elsewhere. The sanitary arrangements alone cost $100,000; there are elaborate provisions for the education and recreation of the workers, and even congress halls for the use of visitors, all to be had free. There are also dining-halls for the workers, at which viands are served at cost price, under conditions as to cleanliness and general surroundings equal to those of a high-class restaurant."

"On questions relating to the American trade and commerce I was surprised at the manner in which the press was used to boom information which was of a favorable character to American manufacturers and their work-people. The journalists make a practice of writing in an optimistic spirit about everything which is American, and thereby give encouragement to employers and work-people in their efforts to take the lead in the industrial race for supremacy."

"Much has been made of the statement that men are so rushed in American works that only the young and strong can stand the strain, and that only for a short time. No statement could be wider of the actual truth."

"It is quite a mistake to imagine that all the plants and methods of American production are up to date. It is equally untrue that they can ever be made up to date. Like many of our own mills, they will have to be 'scrap-heaped.' Even their tariff cannot save them, and they are looking forward with a concern more intense than our own manufacturers to that time when only the strong and provident can survive—though just at present the country needs all the iron and steel it can produce."

"The British employer has more to learn from America than the British workman."

"If employers having the means would speculate in laying down as perfect plants as those I saw in Grand Rapids I am sure we should hear less about American competition."

"If some of the employers of this country would pay a visit to some of the up-to-date factories of the States, I feel sure they would learn something that would compensate them for the expense incurred."

"So far as inquiries give result there is no manner of doubt that the working classes of America save more money and save it more easily than the working classes of England. The absence of gambling on horse-races and heavy drinking no doubt contribute to this result. The American working-man has not even the mildest interest in the former, and is certainly entirely against the latter; virtues which we hope the Atlantic will not forever keep on the other side.

"Against this some put the statement that the life of an American working-man is much shorter than it is with us. Upon what grounds this statement has been based I confess entire ignorance. It struck me that the balance of evidence was in favor of the American working-man living the longer, and unless there is some tangible proof to work upon I shall continue in that belief. Hard work, as it is understood in England, only finds a hiding-place in industrial America, and as soon as it is discovered a machine

is patented which drives it out. American capitalists do not want hard work, and if they do they know a machine will work harder and longer than a human being and cost less. Consequently, it seems to me that this early death tale wants strong confirmation. Neither do I believe the statement that workmen in America are driven out sooner than our own workmen; the probabilities are all in favor of America. If it is so, no doubt there are figures to prove it. With business men it may be true; with workmen I seriously doubt it."

"A concluding word to my fellow working-men—at whom nearly everybody has a kick, in discussing questions of work and wages, as the general scapegoat. The workmen who have helped to build up American industry and have made it what it is are largely British. I have had universal testimony to this fact. A leading manager, with not, I believe, a drop of English blood in his veins, generously and frankly said to me: 'Your workman is the best all-round fellow in the world. His only fault at home is that he is a bit too conservative in his work, but he comes here and takes his coat off, and soon lets everybody know the stuff he's made of.' That is generally true. What an Englishman or Welshman can do in America, however, he can do here—anywhere. Make the most of your work for profit, and of your trade-union for protection. Remember that this trade question is your bread and cheese, and demands your best efforts and attention."

"Education with us has become the sport of politicians, and with the child left out there is room for much theorizing. The processes of industry are better understood, better carried on and better developed by educated and highly trained intelligent work-people than by ill-educated and ill-trained work-people. In this America is at least a quarter of a century ahead of us, and unless we wake up and fit the shoulders of our children for the burden which will inevitably fall upon them the day of hobbling senility will surely dawn for us."

"In conversation with some labor representatives, they expressed surprise at the conditions which obtain here in relation to education, their statement being that they considered it absolutely necessary for the best interests of a nation that education should be secular, free, and untrammeled by anything in the shape of religious controversy."

CAN I AFFORD AN AUTOMOBILE?

WHAT A GOOD MACHINE COSTS AND THE YEARLY EXPENSE OF MAINTENANCE—WHAT AN AUTOMOBILE SAVES

BY

HENRY NORMAN, M. P.

MY article, called "The Coming of the Automobile," in the April issue of this magazine, has been honored with an amount of notice that may dispose once for all of any doubt whether the general public is interested in the subject. An extraordinary fact is that almost every commentator seems prepared to accept my rather audacious prophecies as probably well-founded. The editor of THE WORLD'S WORK despatched a representative to count the two classes of vehicles at six typical New York and London street corners for five minutes at each. The figures were, in New York, 48 motors and 462 other vehicles, and in London, made in March, in a much less favorable time of year for automobiles, horse-drawn vehicles 270, motors 36, and the editor considered that this striking proportion lent much probability to my forecast that in ten years' time there will not, speaking generally, be a horse left in the streets of New York and London.

The statements in "The Coming of the Automobile" regarding the comparative cost of keeping an automobile and a horse and carriage have apparently set many people thinking, and I have received requests from many quarters to go more in detail into that aspect of the matter. As this is unquestionably the point of view from which most people will first approach the subject, it may be of general interest to do so, but I must preface my figures with the remark that no two writers upon automobiling are likely to agree upon statistics of cost. Indeed, no two people buying identical machines will keep them for the same yearly expenditure. One owner will keep no account, allow his driver to take the machine to a repair shop as often as he likes, make no attempt to understand it himself and bring his own more educated intelligence to bear upon its problems, let his accumulators be injured by running down, and his bearings worn by his oil-cups not

being kept full, pay thirty cents a gallon for his gasoline and $1.75 a gallon for his lubricating oil, leave cuts unrepaired in his tires, and permit his machine to be left all night with the mud on.

The other will study his engine till he knows what it is doing and what should not be done to it, keep every want of his machine regularly supplied, find a keen pleasure in doing all trifling repairs at home, insist that its body and wheels shall be as scrupulously washed and leathered as those of the most costly brougham, pay twenty cents for his gasoline and $1.25 for his oil, and generally act toward his property like a careful and sensible man. Naturally, at the end of a year these two owners will have disbursed very different sums, and moreover, the one, when he wishes to sell, will have to accept the price of a much depreciated piece of property, while the other—as I have just done—will find a purchaser happy to give him within a reasonable amount of what he paid for it, for a machine practically as good as new. Mine was running better the day I sold it than at any time during the first week I had it. And parenthetically, I may here remark, that the better class of makers do not appreciate, as might be supposed, the owner who runs up a big bill for repairs. They like the owner whose machine is never out of order. What they want to do is to sell new machines, not to tinker with old ones, and an automobile that is known of all men to be always ready to do what is asked of it is their best advertisement.

Let it be agreed, then, that there is no finality about figures of cost in the keeping of an automobile. Nobody will agree with anybody else's calculations. I have carefully considered the whole question since I last wrote, and I have worked out certain statistics which represent the cost as it appears to me and as it has come within my own experience. For the purpose of comparison I take two classes of machines: one, such as a man who has kept a horse, carriage and groom might think of adopting instead; the other, such as a man who has never kept a horse might consider within his means. The machine of the owner of a carriage and pair in town—still less the machine costing $7,500—are outside my scope. These people can afford what they wish; they will not ask themselves the question at the head of this article.

The machine for the first of the two classes of owners I have mentioned may be taken as costing from $1,500 to $2,000. For this average sum a ten-horse-power, two-cylinder, four-seated, full leather-upholstered, smart-looking machine, capable of a maximum speed of from twenty-five to thirty miles an hour on the level, and an average all day of sixteen to eighteen miles, may be bought, some makes costing rather more, some rather less. Now, the first matter of cost—but the one most commonly overlooked—is depreciation. At what rate does an automobile depreciate in value? Truly a most difficult question to answer. Of course, the machine of a first-rate maker suffers less depreciation than one by a second-rate or third-rate firm. After much reflection I think it is fair to reckon that an automobile costing new, if bought at its lowest price, let us say $1,750, will be worth after two years use, *if it has been carefully kept*, $1,100. This would not have been correct in the past, as types were changing so fast and so many vital improvements being added, but we have now a practically permanent type of machine, of which this depreciation is not an underestimate. For purposes of calculation, then, I take it that the purchaser will keep his machine for two years and then wish to sell it and buy another—doubtless a bigger and a faster one. His depreciation account will, therefore, be $325 per annum, and I am inclined to think this is a needlessly large estimate, for he may well keep it for four or five years and still sell it for a good sum. His tire bill is another puzzling item, and will depend both upon luck and upon good driving. If the roads in his district are very rough, and he likes, or permits his driver, to dash up to a door and stop short by clapping his brakes on hard, it will be more than if he enjoys smooth roads and keeps his brakes for emergencies. I think $200—practically a complete new set of tires—a fair estimate for two years' use, the tires to be in good second-hand condition when he comes to sell the machine. Tires, therefore, figure in my estimate at $100 per annum. The cost of gasoline depends upon the mileage. Probably 4,000 miles a year—eighty miles a week—is a reasonable average. In many summer weeks this will be greatly exceeded; during many winter weeks, on the other hand, the machine will hardly be taken out at all. At an average of twenty miles to

a gallon—it will soon be more—with gasoline costing twenty-two cents per gallon can, this item comes to $44 a year. The other supplies—lubricating oil, kerosene (for the side lamps) carbide of calcium (for the acetylene headlight), and French chalk (for the inner tubes of the tires)—I put, without troubling the reader with details of the calculation, at $75. Repairs and replacements, in which I include sparking-plugs and the various springs which perish, ought certainly, in the absence of accidents involving serious breakage, not to exceed $50.

The owner I am describing will in most cases keep a driver. The wages of these men have hitherto been exorbitant, as there have been so few of them. This is naturally righting itself rapidly, and today a man should be got without difficulty, for town service, to board and lodge himself, for $30 a week. In the country, where he will be fed and lodged without appreciably increasing the household expenditure, his wages will, of course, be much less. He will need a leather suit, cap, leggings, gloves, goggles and overalls, which can be bought for less than $25. If the owner has nowhere to keep his automobile, a sum for part use of a coach-house must be added. Except for this last item, the total yearly cost thus calculated is $2,179.

I have not yet seen any calculation of automobiling expense which does not overlook the obvious fact that there is something to be placed on the other side of the account. But an automobile not only costs money—it also saves money; the only question is, how much? When an automobile and driver are kept, the man of a family will frequently drive to his office in it; the lady will use it for calls and shopping; both will keep many social engagements together in it; they will doubtless use it to take them to the sea or the hills for their autumn holiday, and will constantly employ it at that time. It is doubtless impossible to make any exact calculation under this head, but I think it fair to estimate that the saving of hired carriage and railroad fares during twelve months will, in the case of an average well-to-do family, be at least $50. When both husband and wife are economical in cab fares the saving may be less. Where the husband's business takes him about a good deal it will be much more. A doctor, for instance, will find it a far greater economy than I have reckoned. A country doctor in good practice without an automobile will soon be hard to find. The medical man to whom I sold mine the other day calculates that it saves him four hours a day—an enormous gain of time, health and money. He writes of an important consultation at a distance, and adds: "This enabled me to travel forty-six miles, see my patient, and be back in my house in less than three hours. Today I have a round of sixty miles before me." And as regards people living in the country a further important economy exists—for the present, at any rate: by owning an automobile they can live much farther from a railway station and therefore effect a considerable saving in rent.

I now come to the second typical class chosen for purposes of illustration—the family who would not keep a horse. They will buy a two-seated automobile. It may be propelled by either steam or gasoline, but I take the latter in order to secure parallel figures of expenditure. The machine will be a graceful, good-looking vehicle, of five or six horse-power, with pneumatic tires, upholstered in leather, capable of climbing any reasonable hill on its low speed, and of running from twenty to twenty-five miles an hour on its higher speed on the level. Some of the lightest machines are not to be recommended, but there are many good ones on the market, and they cost from $650 to $1,000. Nothing could be simpler than their management, and a man who cannot learn in a month all that need be known about the mechanism and care of the engine ought to push a perambulator. I am optimist enough to think that before many years are over it will be thought merely foolish for either man or woman to boast, as so many do now, of their absolute inability to comprehend the simplest matter of mechanics. Ignorance, or lack of intellectual grasp, is no particular credit to anybody. And I think there is a good living waiting for both men and women as teachers of automobile management. The purchaser of an automobile would in most cases be glad to pay for a course of lessons at his own house—say $20 or $25 for six lessons, plus traveling expenses, if out of town. At any rate, there should be no difficulty in learning, thanks to the excellent technical newspapers discussing all the difficulties and problems of automobiling.

An automobile of this kind, if taken care

of, should sell for half its cost at the end of two years. Taking the original price at the highest figure, therefore, namely $1,000, the annual depreciation on two years would be $250 per annum. Such a machine should do a better average than twenty miles on a gallon of gasoline, but to be safe I adhere to that figure. For the oils and supplies I have specified in relation to the larger machines its annual cost would not be more than $50. So light a machine is very easy upon its tires, and $75 a year should abundantly cover this item. The total cost of this machine, also running 4,000 miles annually, thus comes to $445, without allowing anything for housing, and presuming that washing it will be one of the duties of the "man about the place." Where a hose is available this is not a long job.

Now what shall be allowed in this case for the saving effect? The family under consideration will not spend so much upon cabs as that previously discussed, but, on the other hand, the more modest family would be more likely to take its whole annual holiday, there and back, and while away, with their automobile. To be quite reasonable, let us put this figure at $75 for the year. I therefore present my more modest class automobile budget as follows:

AUTOMOBILE FOR TWO, WITHOUT DRIVER

Cost (loss on sale after two years' use, per annum)	$250.00
Tires (two years' average)	75.00
Gasoline (4,000 miles at 20 miles per 22-cent gallon)	44.00
Oils, etc.	50.00
Repairs	26.00
	$445.00
Less saving in cab and railway fares	75.00
Net yearly cost	$370.00

I fancy that the possibility of the ownership of a charming and efficient little machine, with all the pleasure, the variety, the health, and the advantages it will add to his life for a total annual sum of $370 (and I think it can be done for $340), will come as a surprise to most people of modest means. I would on no account mislead them, and I feel confident that, given intelligent and careful management, these figures may be regarded as substantially accurate.

One word of warning, however, may be added, addressed to all classes of automobilists. In the automobile world the same things cost different prices according to where you buy them. This is true of a good many automobiles themselves, but it is truer of all supplies and accessories. The simple truth is that many dealers have not yet realized that the automobile has become an article of common use and necessity. They began on the principle that everybody who bought an automobile was (*a*) a rich man, and (*b*) a fool where money was concerned, and they act still upon those lines. This is the reason why many of them are now doing so badly as regards profits and dividends. When an owner saw on his bill, "To supplying new tremblers and adjusting coils," or "To adjusting high-tension circuit," he thought something important and costly had been done, and signed his check accordingly. And the way in which he has been fleeced for the "overhauling" of his machine is scandalous. My advice, therefore, is: Buy your automobile from the makers, or the makers' direct agent; discover, by comparison of prices, at what place you can get supplies and accessories cheapest, combined with direct personal relationship, with an intelligent, careful and responsible dealer who knows his business, and then get everything from him, letting him know that you propose to do so until you find out that he is overcharging you; never permit your driver to purchase supplies, nor consult him about your purchases; and never under any circumstances let your automobile be "overhauled."

I hope I have now helped my reader to answer the entrancing question, "Can I afford an automobile?" In many cases I have no doubt he will find to his astonishment that he can. At least, I shall have disabused his mind of the belief that the automobile is necessarily a rich man's luxury. Indeed, there is a class whose means are smaller than those considered in this article for whom the joys and the advantages of automobiling are available at less cost than here set forth. I allude to the motor-bicycle—a means of locomotion destined to have an extraordinary effect upon industrial society. This I propose to discuss on another occasion. For the present I shall be glad—and so should the reader be—if I have opened for him the door to a possession which, more than anything else in the material world, will increase his interests, his opportunities and his happiness.

THE BUSINESS OF VACATIONS

THE IMMENSE AMOUNT OF CAPITAL USED EVERY SUMMER FOR RECREATION—THE PART THE RAILROADS AND STEAMSHIPS PLAY —SUMMER HOTELS, FISHING CLUBS, HUNTING CLUBS—YACHTING, COACHING AND CANOEING—THE SUMMER COTTAGE INDUSTRY

BY

LAWRENCE PERRY

THREE systems of railroads, and not the largest systems at that, have estimated the value to them of the summer vacation travel at from $500,000 to $800,000 a year each, while of the larger systems like the New York Central and the Pennsylvania it has been said that the value of their summer vacation traffic runs into the millions. In the White Mountains and other regions the amount of money paid to hotels and boarding-houses and guides and the like each year runs far into the millions. In 1890 the figures were taken for New Hampshire; they aggregated $5,000,000, and that the average has been as much, if not more than this, in more recent years there seems little room for doubt. In Lenox, Massachusetts, small corner lots now sell for $15,000, and farming lands at $1,000 an acre. The wilderness in the vicinity of Lake Placid which twelve or fourteen years ago would have been purchased at $30 an acre, now commands $1,200 and $1,500 an acre; and so it is at Mount Desert, Maine, and, in fact, in summer resorts all over the country.

A person might go on indefinitely naming the great sums of money distributed from the national centres over the rural districts. If the cost of moving and caring for our great army of summer migrants for one season were put into one huge sum the amount would probably equal the capital of all the big trusts combined. In the process of changing hands the millions are distributed among railroads, steamboat lines, stage lines, hackmen, express companies, hotels, boarding-houses, guides, servants and helpers innumerable. The rush is limited to no region or country. Millions pass over a system like that of the Pennsylvania Railroad, which reaches the Jersey coast resorts and those of Delaware, Maryland and interior resorts as far north as Lake Michigan. Once a not very small railroad was compelled to reduce its dividends because of an epidemic in one of the cities toward which that railroad directed its summer excursions.

The value of all labor in summer resorts is increased tenfold. Whole districts are remodeled. In New Hampshire alone more than 350 farms were recently purchased by persons intending to convert them into summer homes. Visitors ride and drive; hence communities seeking to attract them must look to their roads; game and fish must be preserved, property beautified. And so throughout the whole country natural sluggishness is transformed into stirring life and energy. The summer hotel and the summer boarding-house are being superseded in a measure by cottages. Particularly is this so in Newport, where there is not one first-class summer hotel, and in Bar Harbor. Even in those homes of the summer hotel—Atlantic City, Saratoga, Long Branch, Asbury Park—the influence of the cottage is being strongly felt. A majority of the available and most beautiful sites from Cape May to Eastport are already in the hands of cottagers.

But a summer hotel accommodating say 400 guests will report about one-third of this number departing every day and one-third of this number arriving. This, taking the eight weeks of July and August, would give that hotel about 6,000 guests in a good season. With rates from $3 to $10 a day, this means good profit. The hotels of Atlantic City, Saratoga and the like in the aggregate number their guests by the millions. In the Adirondacks we find, from reports of the various railroads, hotel accommodations for about 10,000 persons; in the Catskills for about 8,000 persons, Lake George 6,000, and in the White Mountains more than 11,000.

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SURF-BATHING THE FAVORITE SEASIDE AMUSEMENT

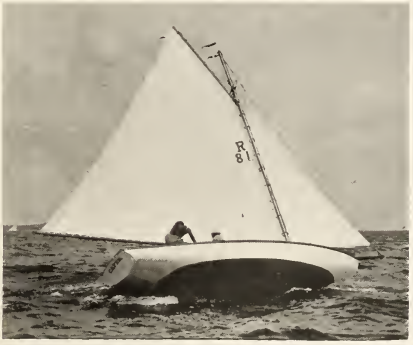
in the case of the hotel cited in the foregoing, about one-third of the guests are constantly arriving and departing, we will find that more than 500,000 are accommodated in these regions throughout a season. Then, too, probably a larger number of persons go to cottages, boarding-houses and camps.

Some of the railroads, notably the Canadian Pacific, own hotels and fishing and shooting tracts, and direct summer visitors thither. If one wishes to go shooting or hunting or camping, he need not necessarily be encumbered by paraphernalia in the trip; in some cases the road will supply all he needs when he arrives at his destination, or, if not, it will tell him just where they can be hired. A great many hotels have stores attached for the sale or rental of camping, fishing and hunting outfits. The New York Central Railroad maintains information bureaus in many large cities of this country and Canada, and there you may peruse classified lists of all hotels and boarding-houses in any recognized summering region. You may learn the price of board, what the amusements are, what they cost—anything, in fact, that it might be desirable to know.

Foreign lands are not neglected in the vacation rush. Each year one or two of the large steamship lines send out their vessels on cruises to the Orient, Alaska, Sweden and Norway, and bookings may be had for

Photographed by Scott

A SAILING CANOE RUNNING BEFORE A LIGHT BREEZE



Photographed by Burton

IN A BRACING WIND

Photographed by James Burton

A RACE BETWEEN TWO SLOOPS

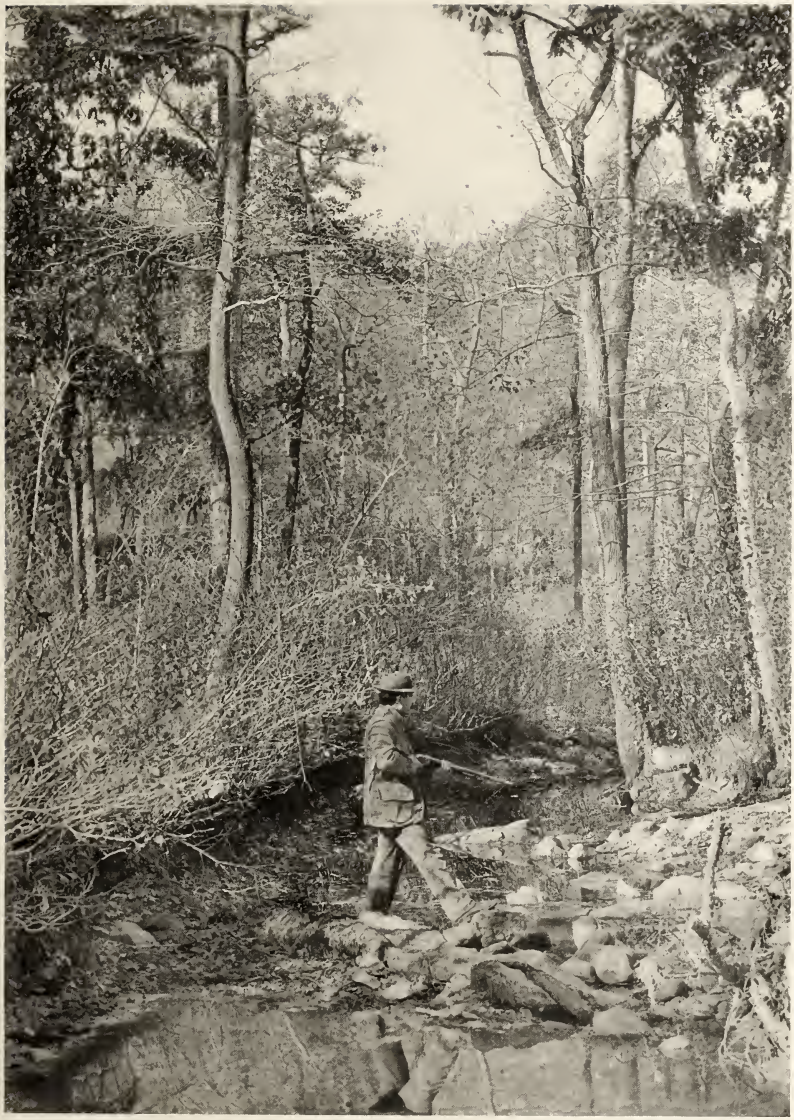
The racing-sloop comes nearer to having life than any other inanimate thing

reasonable sums. Parties are personally conducted by an officer of the steamship line and much territory is covered in a short space of time. The Hamburg-American Line keeps one steamship just for cruising purposes. Then various agencies, like Cook's and Clark's, charter steamships each month of the summer and send their patrons far and wide. You may take a very enjoyable foreign trip through these agencies for $300 or even less. Hundreds of thousands will travel in these conducted tours this summer. To plan and carry out even a modest journey abroad involves dealings with a very large number of different interests—steamship companies, railroad companies, bankers, dealers in foreign money, hotel-keepers, ticket agents, diligence, stage and carriage owners, customs-house and other government officers, local guides and interpreters, all in various languages. All this is attended to for the tourist in a conducted party.

Much might be said concerning the sports of the vacation season, the conduct of which represents infinite business tact and the outlay of millions of dollars. Foremost of those benefiting in a business way from yachting are the designers and builders. The Herreshoffs, for instance, will not receive a cent under $250,000 for the con-

Photographed by Levick

A HARD DRIVE IN A POLO GAME



Photographed by George Stark

EXPECTATION

Hunting in Arkansas

Copyright, 1902, by W. P. Robertson

HEATHERBLOOM, CHAMPION HIGH-JUMPER OF THE WORLD

Photographed by W. A. Boger

DOWN AN ADIRONDACK ROAD

struction and fitting up of the new cup defender *Reliance*, and they will get more out of her before the season is over. Then the Herreshoffs have designed and built, or are building, nearly a score of other yachts of various sizes, and all along the coast and on the Great Lakes yacht-builders are busy.

Since road-coaching was introduced into this country some eighteen years ago by Colonel Jay and Colonel Delancey Kane, it has steadily grown in favor, until now there are

Photographed by Chester D. Moses

COACHING IN KEENE VALLEY, NEW YORK

Photographed by Frank A. Perret

ALONG SUMMER BYWAYS

Photographed by W. A. Boger

PEACEFUL WATERS

Photographed by A. W. Dimock

SHOOTING THE RAPIDS

coaching clubs in New York, Boston, Texas, Birmingham, Alabama, Philadelphia, Indiana, Michigan, Minnesota, Milwaukee, Sioux City, Iowa, Pueblo, Colorado, Omaha, Louisville and in other cities. In New York, besides the regular coaching club, there are regular lines of coaches, which may be chartered to private parties, running daily or triweekly to Lakewood, Ardsley, Morris Park, Westchester County Club and Van Cortlandt Park. The reins are handled by either a gentleman or a professional whip, and one seat may be had for $12. In the White Mountains and in other summer resorts there are also coaching lines conducted on a similar basis. For these coaches horse dealers must furnish well-bred animals that can trot ten or eleven miles at a stretch without distress. Horses must be of one type; for it is often necessary to transfer horses which

Photographed by Marr

A LAZY SUMMER AFTERNOON ON THE CHARLES RIVER, MASSACHUSETTS

By courtesy of Will Allen

COMING ABOUT IN A SAILING-CANOE

By courtesy of Will Allen

THE SAILING-CANOE
The sportiest of all small craft

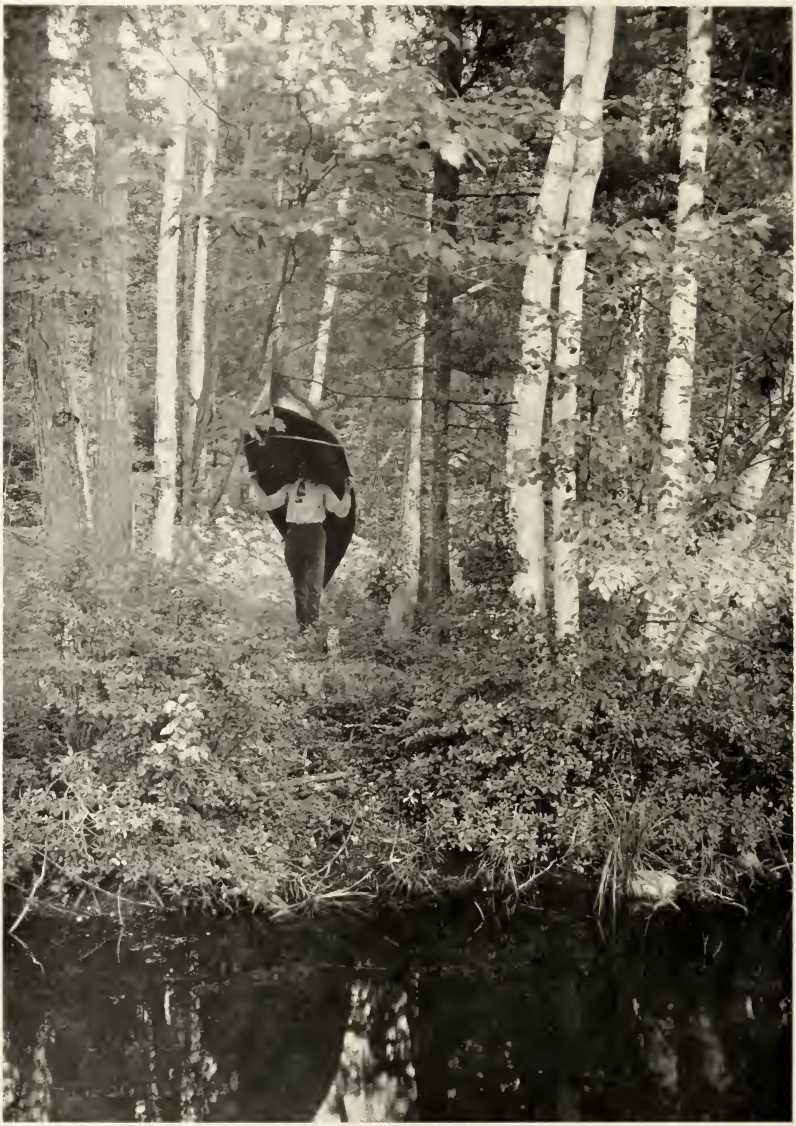
By courtesy of Will Allen

OVER!

may not be effectively done with a nondescript lot. This means much for the breeders and dealers. Very few horse-keepers understand four-horse work, and in this country a large number of incompetent men must necessarily be employed. This, as a consequence, requires the services of a thoroughly competent man or head servant to go over the road each day and keep the horse-keepers straight. He is provided with a light buggy,

Photographed by W. A. Boger

BOWLING ALONG



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AN ADIRONDACK CARRY

and an extra horse is kept for him at each station. He must be ready day or night to start out along the road and see that the horse-keepers are about. This follows that the head servant must thoroughly understand coach horses. Many of the coach routes in New York City, and, indeed, throughout the country, are conducted by hotels.

The function of the American Canoe Association, including in its various divisions the canoe clubs of all sections of this country and Canada, is principally to hold yearly meets on Lake Champlain for the purpose of developing the best all-around canoe. The annual canoe meet is really a grand camping-out time in midsummer, when several hundred male canoeists and a score or so of women live in canvas tents and imitate in modern manners the habits of the Indians. After the best "all-around" canoe has been determined the manufacturer receives calls for it from all parts of the country, and he charges from $175 to $250 for it. The price always goes up with every new design. They used to cost $45—that is, paddling canoes did—then they went up to $65, and now sailing canoes, the only canoes extensively used, cost $200, and the rigging, sails and spars from $60 to $100 more. The manufacture of canoes forms an immense interest in this country at the present time, canoeing as an adjunct to camping and *vice versa* being one of the most favored summer diversions for a great number of young Americans.

Many game- and fish-preserves, especially in Canada, are owned by the Government, while others are either owned or leased by individuals or clubs. The preserve system was first adopted on a large scale by the legislatures of the various Canadian provinces. All the best shooting-grounds and streams in the Canadian Northwest are included in the game-preserves. In recent years we have followed Canada's example. Land has been divided into preserves by various States, stringent game laws have been enacted, wardens have been appointed to enforce them, and non-residents must pay for licenses before they may discharge a gun or cast a line. Aside from the establishment of National, State and municipal zoölogical parks and preserves, where game may not be hunted, a great number of private preserves have come into existence. Perhaps the largest preserve in the world is the Blue Mountain Forest Preserve in New Hampshire, including thirty-two square miles of territory. No money was spent in altering the natural features of the preserve. A wire fence eight feet high and thirty miles long was built around a large portion of this domain, and here animals roam wild in the thick forests and impenetrable underbrush. In the Borough of Newport the club-house stands, and about forty wardens are scattered through the preserve.

Many of these preserves are owned by clubs or privately by millionaires. The pioneer of these clubs is the Blooming Grove Park Association, located in Pike County, Pennsylvania. Its prime object is the breeding, importing and preserving of all game animals and fishes adapted to the climate. The association owns about 17,000 acres and leases 4,000 more. Fish-hatcheries and game-breeding parks have been built and laid out and are conducted by experienced naturalists and professional sportsmen in the employ of the association. In the Adirondacks the Kildare Club is similarly operated, and there are a score of smaller preserves owned by clubs or individuals up in the North Woods. Charles Fenton owns 30,000 acres there and employs twenty game-wardens. George J. Gould has a richly stocked preserve of 1,000 acres in the Adirondacks; and Edward J. Litchfield, of Brooklyn, has a preserve of 9,000 acres. New York State alone has set aside 1,500,000 acres for game-preserves. In New England there are fifteen private game-preserves, Dr. Seward Webb's preserve in Vermont being the largest. E. C. Benedict has one of the largest fish-preserves in the world in his lake in Connecticut.

The majority of guides and camp-owners in many States are registered and pay a State license, and non-residents shooting or fishing in "wild lands" must procure one of these guides. The usual non-residents' fee is $25 for deer-hunting and $10 for smaller game or fish. In many States a resident's license is required, usually seventy-five cents.

In Canada the prolific salmon streams are cared for by the provincial government. A section of the largest and one of the best known of these salmon rivers, the Restigouche in Quebec, is leased by the Restigouche Salmon Club, composed mostly of New York sportsmen. The club pays an abnormally high tax for this river, but the sport obtained

on it is well worth double the money. All clubs are incorporated, and are conducted according to regular business methods.

In addition to leasing preserves Canada sells some of them outright. You may buy a pretty island from the Ontario Government for $5,000 and upward, or land at $5 an acre, and carpenters will build a cottage for $250. A camping and land club exists in Ontario for this very purpose. Dealings with the customs authorities enter very largely in your hunting excursion into Canada. All articles brought into the Dominion, such as guns, fishing-rods, tourists' outfits, camping utensils and the like, are appraised by the customs officers and a duty must be paid. These duties are returned in full provided the articles are taken out of Canada within six months' time. The sportsman must also show his license to the inspectors before he is allowed to take any game out of the Dominion. In most of the provinces resident sportsmen must pay a $15 license and non-resident sportsmen a $25 license. The best sport to be obtained by sportsmen not belonging to clubs or owning preserves is along the lines of the Canadian railroads, which have spent great sums in running their lines into almost unexplored regions. Recently the Canadian Pacific Railroad, besides extending its lines, opened trails through impassable lands in the Steel River, Black River, Prairie River, Gravel River and Jack Pine River regions, a venture which has been amply rewarded. Scientific excursions crowd to the wildernesses of the Northwest in vacation times, and for them many special privileges are made.

So great has been the growth of the demand for vacations that in many places cottages are sublet for the summer at the same price as their year's rental, and streams whose privileges have been rented for a small fee now bring a large rental. With the growth of the vacation idea recreation for half the people has become business for the other half.

VACATIONS FOR THE WORKERS

THE PEOPLE WHO TAKE VACATIONS AND THE PEOPLE WHO GET THEM—THE GROWTH OF THE VACATION HABIT

BY

FRANKLIN MATTHEWS

AMERICANS of today may be divided into two grades in respect to vacations, those who *take* them and those who *get* them. Those who take them are the men whose business affairs are such that they do not have to say by your leave to any man. They are the prosperous professional men, the independent business men and the high-priced manual laborers who can demand time off and be sure of keeping their places by reason of their skill. The men who get vacations are employed by others who recognize that it pays, if merely as a simple business proposition, to give time to their subordinates for rest and play.

The outing habit has led directly to the vacation habit. The increase in holidays, the general adoption of the Saturday half-holiday by business men and by so-called working-men, the vast extension of the trolley lines, taking people away from cities to the seashore and country, the growth in popular participation in athletics, have caused the outing habit to spread tremendously. This has made men hungry for vacations and has educated employers and employed to see the desirability of taking and of giving them.

Now it must be conceded that the man who goes on a vacation of a few days, say a week, must have at least $25 set aside for that purpose. He must pay railroad fares and board. If he is unmarried he must have that sum to secure moderate comforts. If he is married and takes only his wife with him he can not spend a week away from home, even in the most modest way, for less than that sum. The great majority of men on vacation spend more than this. A large number who

go only a short distance from home and seek recreation with relatives or in the cheaper grades of farmers' boarding-houses may and do get along with a smaller sum.

We may pass by the rich and prosperous business men and professional men in looking at the social significance of this movement. Their vacations may be regarded as a matter of course. It is when we look at the working-man, the manual laborer, on his vacation that we realize the great change that comes over the American people in periods of great prosperity. At once there is to be considered the element of trades-unionism. This force has so increased the wages of the average working-man that he can take time for a vacation, and it has also made it possible for him to retain his place, notwithstanding his absence for a stated time from his work. No working-man in the ranks of organized labor gets a vacation; he takes it, and there are few who are not able to pay for this play-spell. High wages make this possible.

A leading member of the Civic Federation, one of the most active in that association in bringing about better relations between the employer and the employed, said the other day—he is a daily toiler himself—that never in the history of the world were working-men so well paid as they are in the United States today. Much has been said of late of the increased cost of living, but this man said that we hear little of the increased wages. There has been an increase practically of ten per cent. in these wages in the last year.

In the rooms of the Civic Federation in New York there hangs a chart of wages paid in the building trades. It comprises the wages paid in all the leading cities of the country. It shows that all of them, with the exception of Baltimore and Boston, are what may be called eight-hour cities. Baltimore is a nine-hour city. Boston is about equally divided between an eight-hour and a nine-hour city.

Now the bricklayers in New York in 1901 got 60 cents an hour and worked eight hours a day. In 1902 they got 65 cents an hour and worked the same number of hours. That means $5.20 a day. There was more work in New York than they could do. The bricklayer who could not save up $25 or $50 in a year for a vacation out of $30 a week must be of the shiftless class, when one considers that ten years ago he worked for probably less than $4 a day, and in the hard times then prevailing was glad to get any work at all.

The iron-workers in 1901 got 56¼ cents an hour. In 1902 they got 59⅜ cents. The wages of the marble-setters were increased from 50 cents an hour to 56¼ cents. The plasterers in 1901 got 56¼ cents an hour and in 1902 they got 62½. Stone-cutters had their wages increased from 56½ cents an hour in 1901 to 62½ cents in 1902; and so the list might be extended. The great army of "helpers" in the building trades also shared in this ten per cent. increase.

The great point of all this is that the manual laborer gets enough wages nowadays to get away a week or two each year; and the general testimony of employers and labor leaders is to the effect that most of them not only take outings on Saturdays and Sundays and holidays, but that most of the skilled workmen of all trades make it a point to take real vacations every year. When the laboring man, using the words in the usual restricted sense, gets time and money enough to get out to see a little of the world and to participate in its rational enjoyments, away from his daily toil, it needs no comment to make plain its social meaning.

As to those who get rather than take vacations, perhaps the most favored are employees in the great financial districts of large cities, particularly in New York. Recent years in the money district in New York have been years of great plenty. Dozens of houses have given large bonuses to their employees at Christmas time, amounting in some cases to 100 per cent. of their salaries. A bonus of from twenty-five to fifty per cent. has been quite common. In addition, there is scarcely a clerk that has not had at least two weeks' vacation given to him at the firm's or company's expense. Indeed, it may be said to be a general rule that all of those who *get* vacations in the great cities do so under full pay. It has come to be the accepted thing in American business life.

The employees in the financial district of New York are now so well paid that they can go on somewhat pretentious vacations, and it is common for the more important of these workers to get a full month's leave under pay. A large number of these men slip away to Europe for a short stay, or save up their time for two or more years for a more protracted visit to the Old World. Some go fishing in

Canada or pass a large part of their vacations in the mountains of our own country. Many belong to organizations that own camps or hunting- and fishing-preserves. Some go as far as the Rocky Mountains or the lake region in Wisconsin, Minnesota and Manitoba.

They get away from Wall Street as far as possible. Some of them with social aspirations in their families go to the fashionable seashore places, but a canvass of a large number of the Wall Street business houses by a reporter of one of the leading newspapers has shown that the majority of men on a vacation from the financial district of the town go to the country—that is, to the mountains or to the fashionable places on lakes or rivers adjacent to the mountains.

There are no employees in the world who have more leisure time under pay than those who work in the Federal service. In the Customs service in New York, for example, it is a matter over which they make merry. The Government gives each employee thirty days' vacation under pay each year. In addition there is allowed to each one yearly thirty days' absence under pay for sick leave. Many employees who do not know what it is to be sick combine these leaves into a sixty days' vacation. More than one typewriter girl and many of the men, even in the lower forms of public service, in this way go to Europe frequently. In addition to these days of leave, of course, the employees get eight holidays a year. This, with the Sundays, makes exactly 120 days out of the 365 which these Government employees have to themselves. In other words, they work only two-thirds of the time. But that is not all They have fifty-two half holidays on Saturday afternoons. This really makes twenty-six more days away from work. On other days these Custom House employees work only from 9 A. M. until 4 P. M. Truly the politicians look after their own in the matter of vacations. In the city and State employ the same general rule obtains, the sick leave, however, not being regulated by statute.

In the great mercantile houses, where the salaries are largely regulated by the law of supply and demand, it is customary to give employees from one to two weeks' vacation with pay; and in many houses a gift of $5 or $10 and in some cases more is given to each person as he or she goes away. An average of $1,000 a year salary is probably the rule in most of the great wholesale houses, counting high and low. These employees take modest vacations, going out to farms; or as far as the Catskills—if they seek mountain recreation. The seashore gets a large part of their numbers, and many of them help to swell the ranks of the expert amateur fishermen of the country.

Altogether modest and yet most necessary to their health are the vacations that the army of employed women get. Teachers, shop-girls and typewriters make up this host. The teachers have full two months, and some of them more, for their recreation time. It is the general rule for them to go to what they call the country—that is, to cheap hotels or to farmhouses from 100 to 200 miles away from home. A large number, however, go in for travel—that is, they go to see things. You will find them at Niagara Falls, at Independence Hall in Philadelphia and at the places of historic interest in and near Boston; and even Washington, hot as it is in the summer time, receives their visits.

The teachers like to look over the great cities of the land. A large number from the smaller cities and towns within 300 or 400 miles of New York come to the metropolis, and they do well, for as a summer resort New York City is one of the most attractive places in the land to strangers. Teachers go to expositions when one is in operation. Their strong inclination is to seek information, and they get it so far as summer vacations can furnish it. Many go to summer schools at the big universities. They spend from $100 to $250 a summer in their recreation and almost invariably they come back refreshed as no other grade of the employees is refreshed.

Some of the better paid teachers, those getting from $1,000 to $1,500 or $1,800, go to Europe every three or four years. A large part of them, going in little parties, travel in the second cabin in the great steamship lines, and show their wisdom thereby, for such travel nowadays is extremely comfortable and satisfactory. They see the stock places of Europe, and they make far better teachers and Americans through this liberal education of travel. High-school teachers, especially, may often be found in Europe in the summer.

The scope of the shop-girl's vacation depends largely upon her private condition of life. If she lives at home, pays no board and uses her modest salary of from $7 to $10 a week for her clothes and incidentals, she may easily save

enough for a week's rest at some distance from home. It is the custom of the large department stores to give their employees who have been a year with them and who are employed constantly the year round a week's vacation with pay. Some of the shops, however, that pay the highest wages do not pay their employees while on vacation. The managers assert that the pay is sufficiently high for the employees to save enough for a week's vacation. They simply give leaves of absence to their trusted employees. When a shop employing from 2,000 to 4,000 persons gives each employee a week's vacation under pay, as several of them do, notably in Brooklyn, it means in outlay the interest on a large amount of capital. The owners of these establishments may be set down as true philanthropists.

It is probable, however, that not more than one-half of the shop-girls get these vacations or leaves of absence. Those who have to support themselves entirely cannot afford to leave town. They take their outings on Sundays and holidays instead. One of the largest of the department stores in New York supports what is really a hotel on the New Jersey coast. From fifty to sixty girls are sent there each week from the store to enjoy free of charge all the comforts of a moderate-priced seashore hotel. Drives and dances and outdoor sports, in addition to bathing facilities, are provided, and in this way nearly 1,000 girls get a vacation each year without the slightest expense to them. The members of the firm say they have found this to be a paying investment financially. But shop-girls, as a rule, do not get far from home. If they see the country at all it is generally less than fifty miles from where they are employed. A few of the saving kind, however, are forehanded enough to go on some rather pretentious trips.

As a rule, therefore, it may be said that there is practically no one in our cities and towns who does not get a vacation or outing. There are no statistics to show which class outnumbers the other—the vacation or outing grades—but it seems to be the general opinion that the vacation habit is so deep-rooted in American life nowadays that the stay-at-homes are outnumbered by these who have real vacations. Where do they go? There is not a sheet of water of any size, especially in the middle West and in the East, that is not lined with shacks for summer parties. Out in Wisconsin, for example, there is a little colony on Lake Pewaukee, just outside of Waukesha, where there is a village of old street-cars, forty or fifty in number, given up to camping parties. Every inch of our northern seashore that is available is already occupied. Hundreds of thousands of farms now take in summer boarders. Indeed, keeping summer boarders is the chief industry of the State of New Hampshire. So important has this business become in New York State that the Forest, Fish and Game Commissioners have taken to gathering statistics of this industry in the Adirondacks and have published them in their annual report. A special report has been made to the State Bureau of Labor in New Hampshire by L. H. Carroll, and it is interesting to note that he says that sixty-two per cent. of those who had vacations in that State last year stayed only one week. This would seem to show that the vacations of the American are of less than two weeks' duration on the average.

The entire eastern part of Massachusetts affords unusual opportunities for lake and seashore recreation. Connecticut has lakes and the great Sound shore, besides mountains in the northwestern part which are most accessible for vacation wanderers. Upper New England is crowded with lakes and mountains. Farms and mountains and rivers abound in New York, New Jersey and Pennsylvania. The great Middle West region of Ohio, Indiana and Illinois has the lake region in the north to go to, and one of the summer sights of the country is the St. Clair River district above Detroit.

No matter where one goes in the eastern half of the United States in the summer time he finds the country crowded and the people apparently devoting themselves to the enjoyment of vacations. "Old Home Week" has stimulated thousands upon thousands to go to their former places of residence in agricultural States. Thousands and tens of thousands of "country boys" who have gone to the cities, in that marked characteristic of American life for getting into the rush of things, go "home" for their summer outings.

No more vivid idea of what vacations mean to the American people could be obtained than by a visit in the first week of last September to the Grand Central Station in New York,

where the baggage blockade nearly tied up travel. Trunks were piled up by the acre. Moving-vans, trucks and express wagons, working night and day, could scarcely make an impression upon that pile. Some of those who returned to the city in that week had to wait four and five days before their trunks came home. Some of them had to wait a week. The railroad people were more anxious than the owners of the trunks to get the baggage away. More than 200,000 pieces of baggage were handled there in September of last year. All the other railroad terminals were in a similar condition. It is safe to say that more than 500,000 pieces of baggage were handled in New York alone in that month. New York is the greatest traffic centre, but this congestion is evident everywhere.

The statistics of the railroads and of ocean lines show a steady increase from year to year in this summer travel. It proves that the vacation habit has come to stay.

THE SECRET OF BUSINESS IS THE MANAGEMENT OF MEN

THE SEVERAL STEPS IN SUCCESSFUL ORGANIZATION, FROM PARTNERSHIP TO CORPORATION AND THEN TO PROFIT-SHARING COMPANY, LEADING UP TO THE TRUE PARTNERSHIP OF EMPLOYERS AND WORKMEN

BY

ANDREW CARNEGIE

[THE PRESIDENTIAL ADDRESS BEFORE THE BRITISH IRON AND STEEL INSTITUTE]

MORE and more our Institute becomes cosmopolitan and confirms its sway over the world wherever iron or steel is produced. It marches forward with the times. Indeed, its mission has been to keep in advance of the times, only now and then following, but oftener making, precedents. He who stands before you today does so through one of those precedents, as the first President not a British subject. You have sought by his elevation to the highest office to emphasize the fact that this, the pioneer institution in iron and steel, knows no petty lines of separation among nations. If international politics were only as harmonizing a force as international education, industry or science, what a wonderful and beneficent change would result! This alarming race among men divided into hostile nations, for increased weapons of destruction to be used not against outside foes but against each other, would promptly cease.

It is gratifying to remember that there are many educational, industrial and scientific societies like our own in which Frenchman, German, Russian, American, Briton and men of other lands meet as friends, cooperating in a common cause. If the parliaments of these countries would only remit to the Iron and Steel Institute the whole subject of international relations, including armies and navies, you could readily appoint a committee of distinguished citizens of each of these countries, members of this Institute, who would have little difficulty in laying the foundation of international peace and good-will such as prevails among us in this cosmopolitan Institute, which knows no warring divisions, and whose members are engaged laboring in unison side by side, guiltless of hostile intent, and therefore free from ignoble suspicions of each other.

Looking over the list of the presidents of the Iron and Steel Institute, their successor is struck by the value of the service they have rendered. Great names are there, among them the chief inventors and pioneers in iron and steel—Bessemer, Siemens, Bell and others whose names are household words. There is scarcely one who has filled the office who has not been able in his inaugural address to deal with a branch of the subject as perhaps

the recognized first living authority upon it. Several have announced and described in your proceedings their own inventions which made them famous.

What a contrast the present occupant presents, who has no shadow of claim to rank either as inventor, chemist, investigator or mechanician. None know so well as you that his attention has been centred upon the business department, and that it is experience in this alone which entitles him to address you. It is the department which differs most, perhaps, from any other—at least, an American humorist gives it as his opinion that the business instinct can no more be instilled into men by teachers than the homing instinct could be developed by feeding them upon pigeon pie. I invite your attention, therefore, to the important question of the organization and management of that most complicated of all pieces of machinery—Man—which has been my province.

Great as is the contrast between the pioneer and the modern manufacturing plant, it is scarcely less between the business methods of the past and the present. Both have changed, and changed for the better, in the unceasing march of improvement.

It is to Britain we must come for the starting point, for here the iron industry began through the operation of her own inventions. We note how individualistic the various organizations were which established the manufacture. No trace of the corporation is seen, for that came later. Brown, Cammell, Jesup, Frith and others were the first captains of industry, chiefly of the mechanical rather than the commercial order, and most of them, I believe, had worked with their hands in youth. Bessemer, Siemens, Thomas and others came later. It is not strange that the inventive and mechanical should have taken precedence of the commercial element in the beginning, since upon these success primarily depended. When the joint stock form came, the business element naturally took first place.

It may be doubted whether the superintendent of any works under joint stock management in these early days had a seat in the board or any reward beyond a fixed compensation, or was called to the main office for counsel upon any question not strictly mechanical. Probably there was not one foreman or important man recompensed in any form beyond fixed salary. The admission of young partners without capital was unheard of. The joint stock form does not lend itself readily to the substantial recognition of exceptional service from the exceptional man, or of payment based upon results in departments, yet it is in this direction that the most important changes have come in the business department.

TAKING YOUNG GENIUSES AS PARTNERS

Speaking from experience, we had not gone very far in manufacturing before discovering that perfect management in every department was needed, and that this depended upon the men in charge. Thus began the practice of interesting the young geniuses around us, as they proved their ability to achieve unusual results—the source of big dividends. These received small percentages in the firm, which were credited to them as the actual cash invested, no charge being made for good-will. Upon this they were charged interest, and the surplus earned each year beyond this was credited to their account. By the terms of the agreement, three-quarters of their colleagues had the right to cancel it, paying the party the sum then to his credit. This provision was meant to meet possible extreme cases of incompatibility of temper, or if the recipient should prove incapable of development or of enduring prosperity. At death the interest reverted to the firm at its book value. The young men were not permitted to assume any financial obligation, and not until their share was fully paid by the profits and there was no further liability upon it was it transferred to them; thus thoughts of possible loss never prevented concentration upon their daily duties. They were not absorbed in the daily quotations, for the shares were not upon the stock exchange or transferable. This policy resulted in making some forty odd young partners, a number which was increased at the beginning of each year.

By this plan they were rapidly paying for their interests and promising to become the millionaires of the then seemingly somewhat distant future, which, however, proved not so very distant. They are now rich men. You will not fail, however, to note that the plan kept them all in excellent training, as poor men still living upon their salaries, millionaires in *posse*, indeed, but not in *esse*—

quite a difference, for millionaires seem liable to develop when still very young so many hitherto unsuspected weak spots in their constitutions, requiring careful nursing and many absences and short hours, and a dozen other impediments to hard continuous exertion, that it does not seem good for their robust health that they should be unduly burdened before reaching middle age. The zest of the chase is over too soon. It will be found the exception when a millionaire employee strains himself unduly by overexertion in the mill or office, nor should he be expected to do so. He has earned the right to some leisure for self-improvement. When a man has achieved a competence, new duties to his family and to himself arise. Money is properly only the means to an end.

THE STORY OF CAPTAIN JONES

We did not fail to see, as the works enlarged, how much success depended upon the mechanical men, the superintendents and foremen, yet not one of these had up to that time been admitted as partner. The business and the mechanical men—office and mill—were still widely separated. Well do I remember the first attempt to bring these two departments into closer relations. It was made with our Captain Jones, one of your members, well known and appreciated by many of you as in the foremost rank of managers, perhaps the foremost of his day in America. He came to us as a working mechanic at eight shillings per day. I explained to the Captain how several of the younger men in the business department had been made partners and were actually receiving much greater rewards than he, while his services were at least equally valuable, and informed him that we wished to make him a partner. I shall never forget his reply:

"Mr. Carnegie, I am much obliged, but I know nothing about business and never wish to be troubled with it—I have plenty to trouble me here in these works. Leave me as I am and just give me a thundering salary."

"Hereafter," I said, "the salary of the President of the United States is yours, Captain," and so it remained till the sad day of his death.

My seniors, the presidents of the other manufacturing concerns, did not fail to take me to task for ruining the steel business by paying a mechanic more salary than any of them received. Being much the youngest of these great dignitaries, I humbly confessed my wrongdoing, not, however, failing to inquire if they knew where we could find two or three more Captain Joneses at double the price. We did not overpay the Captain; he was worth several ordinary salaried presidents. The Captain's declinature of partnership was the only one which ever came within my experience. None of the other mechanics ever preferred salary to partnership, and they were wise. Nothing can compare with that form.

Let me impress that upon the younger members here who may soon have, or should have some day, the choice laid before them. From that time forward the union of the mechanical and business partners went steadily forward until no manager of a mill was without his interest in the business, as pertaining to the position, and no board of management, or important committee, was without a mechanical representative. Thereafter, mill and office conferred upon all important sales or contracts. The mechanic and the man of affairs were in constant consultation and fellow partners—one of the most profitable changes that ever we made.

There was another step taken in the same direction. Men having others under their charge were given an interest in the proceeds, or saving in cost, in their department. Where it was impossible to decide the limits of a department, the managers were rewarded by handsome bonuses beyond their salary, based upon the general profits of the year. Thus, as a rule, every man in authority became more than a mere wage-earner. He felt himself on the first step of the ladder which led to partnership sooner or later, and was worth any two mere employees paid only a daily or monthly wage and denied special recognition.

This plan of reward according to results, for heads of departments, has already become so general and is spreading so fast we may be sure it has proved its efficiency. There are few large department stores or important houses in retail trade which have not been forced to adopt it.

This plan is probably bound to prevail to greater or less degree in manufacturing concerns, and the sooner the better, for the greater number of the workers capital can

compensate, and in one sense reward, by sharing its gains, the more harmonious and therefore more profitable for both must the relationship become.

THE BUSINESS IDEAL—NOT WAGES BUT PROFITS

I never see a fishing fleet set sail without pleasure, thinking this is based upon the form which is probably to prevail generally. Not a man in the boats is paid fixed wages. Each gets his share of the profits. That seems to me the ideal. It would be most interesting if we could compare the results of a fleet so manned and operated with one in which men were paid fixed wages; but I question whether such a fleet as the latter exists. From my experience, I should say a crew of employees *versus* a crew of partners would not be in the race.

The great secret of success in business of all kinds, and especially in manufacturing, where a small saving in each process means fortune, is a liberal division of profits among the men who help to make them, and the wider distribution the better. There lie latent unsuspected powers in willing men around us which only need appreciation and development to produce surprising results. Money rewards alone will not, however, insure these, for to the most sensitive and ambitious natures there must be the note of sympathy, appreciation, friendship. Genius is sensitive in all its forms, and it is unusual, not ordinary, ability that tells even in practical affairs. You must capture and keep the heart of the original and supremely able man before his brain can do its best.

One of the chief sources of whatever success may have attended the Carnegie Steel Company was undoubtedly its policy of making numerous partners from among the ablest of its men and interesting so many others of ability in results. I strongly recommend this plan to the members of the Institute engaged in business, believing that in these days of threatened exhausting competition it will be the concerns which adopt this plan, other things being equal, which will survive and flourish.

In no field is the wise saying more amply verified than in manufacturing. "There be those who gather, yet scatter abroad, and there be those who scatter abroad, yet put into barns."

Disputes of some kind between Capital and Labor are always in evidence, but it must never be forgotten that in the wide fields of domestic service and in that of the few employees with a working master which embrace by far the greater number of wage-earners, all is, upon the whole, satisfactory; there reigns peace, with the inevitable individual exceptions.

MANAGING MEN BY PERSONAL TOUCH

We see in this encouraging fact the potent and salutary influence of the personal element. The employer knows his men and the men know their employer; there is mutual respect, sympathy, kindly interest and good feeling, hence peace. In the extensive field of domestic service we best see how true it is—"Like master, like man; like mistress, like Nan." Here we have the relation of employer and employed in its closest form, and innumerable households testify to the harmonizing effect of personal relations. The trusty servant becomes practically a member of the family, deeply attached to it; and the family reciprocates the feeling. Few householders are without old retainers and pensioners, and to the end of their days, and even to that of the children of the household, the relationship remains unbroken. The friendship of the employers and their children for the old servants, and the affection of these for their masters and mistresses and their children, is one of the most delightful features of life.

What has produced this reciprocal affection? Not the mere payment of stipulated wages on the one part and the bare performance of stipulated duties on the other—far from this. It is the something more done upon both sides and the knowledge each has had opportunity to gather of the other, their virtues, kindness—in short, their characters. The strict terms of the contract are drowned in the deep well of mutual regard. Labor is never fully paid by money alone.

If the managing owners and officials of great corporations could only be known to their men and, equally important, their men known to their employers, and the hearts of each exposed to the other, as well as their difficulties, we should have in that troublesome field such harmony as delights us in the domestic. It is mainly the ignorance of contending parties of each other's virtues that breeds quarrels everywhere throughout the world, between individuals, between corporations and their men—and between nations.

"We only hate those we do not know" is a sound maxim which we do well ever to bear in mind.

In the progress toward more harmonious conditions between employer and employed we see that the system of payment by fixed wage has been largely supplanted by payment according to value of service rendered by workmen in positions of authority over others, and by recognition not only in money, but in position, which often counts quite as much as coin, and not seldom much more with the ablest. There remains still receiving the fixed wage the great mass of ordinary workmen; but we see in the history of the relations of employer and employed that these have not failed to rise greatly also. The movement tending to improve the position of the worker has not passed over even the humblest, but has reached and benefited all.

Passing over the day when the capitalistic employer owned and managed his labor as slaves, it is surprising to note that even as late as last century villenage still lingered in Scotland. Miners and laborers were practically transferred with the mine when it was sold. Speaking recently to a most intelligent miner in Fife (and the Fife miners deserve their extraordinary reputation for intelligence, sobriety and all the elements of good citizenship), I mentioned the fact that our forefathers were thus transferred, and contrasted the position now, when their committee was at that moment meeting the property owners in discussion as equal parties to a contract, both merchants—one buying, the other selling labor. To the inquiry what would be thought now if the employer desired to transfer the men with the mines, he replied:

"Aw, there would be twa at that bargain, I'm thinkin'."

You have to be Scotch fully to appreciate the reply, for much lies in the accent, the twinkle of the eye and significant nod.

THE SLIDING SCALE OF WAGES

The payment in merchandise of whole or part, and the obligation to perform certain duties to the employer, lingered after villenage passed away, but today we have reached the stage of perfect equality between the two contracting parties. Each is free to demand terms or to terminate agreements. Labor is worthy of its hire and is now paid this in coin, the law in many lands going so far as to make its claim a first charge upon the employer's property—a great advance. But the irresistible pressure which has forced change after change in the relations of capital and labor still operates unchecked—a sure indication that the final stage has not yet been reached. We have evidence of this in another important advance, the sliding scale, which provides not a fixed wage but in some degree settles by results. Increased demand brings higher profits to the employer, which in turn brings workmen higher returns, so that as the employer's profits rise and fall, so do the workman's rewards.

If I were asked what was the best service the Carnegie Company was ever able to render the wage-earner, next to giving steady employment at wages equal to any, I should answer, by persuading them to adopt the sliding scale, with a minimum insuring living wages, at its works at Braddock fourteen years ago, which has given perfect satisfaction from that day to this and is still in force, and has produced undisturbed harmony between capital and labor. The sliding scale is a great advance over the fixed wage, not only by securing the workman a prompter and more certain share of the profits, but also because it raises his status. He is something akin to a proprietor when he shares varying profits instead of having merely a fixed wage. He has risen in the scale and is more of a man, and the more of a man the better and more valuable the workman.

While the Carnegie Steel Company interested its young men as partners and was always anxious to reward exceptional service, and carried the bonus system to an extent perhaps unknown in any similar organization, the masses of the ordinary workmen could not be embraced under the limited partnership form even if it had been thought desirable that their savings should be so invested. The objection to this from the point of view of the workman, which always arose in our minds and which we were never able to surmount, was the sad and instructive history of the largest manufacturing concerns, especially those of iron and steel.

More than once in the history of the Carnegie Steel Company, leading partners have even been so doubtful of its future as to beg that their more optimistic senior partner would buy of them large amounts of their interests at actual cost.

THE HAZARD OF THE IRON AND STEEL TRADE

It is an instructive fact that the majority of the principal of these in the United States have, at some period in their career, either been in the hands of receivers, been mortgaged, reorganized, or sold by the sheriff to the great loss of their original owners. Indeed, those who have escaped financial trouble are the exceptions. The great Cambria Iron Company was twice in trouble and once sold by the sheriff; Joliet Works were also so sold; the Bethlehem Company has twice been mortgaged; the six per cent. first mortgage bonds of the immense Chicago Works have sold for as low as 70 per cent., and its shares at less than one-half of their par value. The Troy Iron and Steel Company has lost heavily and undergone several reorganizations. It may be said that these disasters are of the distant past, but history has a way of repeating the past which we do well to remember. The Pennsylvania Steel Company has in recent years been in the receiver's hands. Its shares, in demand at $300 in 1881, sold in '93 as low as $20. There was no overcapitalization in any of these companies. Only actual cash counted. Even today, as I write, we hear of the Superior Iron Company being embarrassed—after investing of cash capital $34,000,000. Its preferred shares, which recently sold for $80 per share, are today quoted on the exchange at $15.50. The common stock last year at $36 per share sells today for $4. The vicissitudes of the leading iron and steel concerns of Tennessee and Colorado are still in evidence. Our friends in Canada have similar experiences. Shares of their large Dominion Iron Company, which sold at $60 last month, are quoted today at $25.

Our experience in America has not been peculiar. The year before last the iron and steel works of Germany were generally in depressed conditions, and their shares suffered heavily. I read a list of these losses at the time which impressed me deeply. If I remember rightly, many declined one-half or more. Several important works were reported in financial trouble. Your own experience in Britain is similar. Not a few concerns, after vibrating between seasons of loss and gain, have from time to time had to be reorganized, entailing heavy losses upon shareholders. Uncertainty of results pertain not only to iron and steel, but to all forms of business operations, and are inherent in them. It is said that of every hundred individuals who embark in a business, ninety-five fail. This seems incredible, but one has only to recall the number he has known who have attempted and failed to find that the percentage of failures is great indeed.

You know too well how the path of iron and steel is strewn with financial loss in all countries, and that all forms of business must encounter grave risks. Scarcely a week passes without news of embarrassment or failure in the industrial world. Thus it has ever been, and ever must be, while human nature remains unchanged.

Bearing all this in mind, the thought of asking the working-man to risk his precious savings in the manufacturing or any form of business was always discarded by us as too dangerous for him. He was advised to buy a home instead and to save his rent. To facilitate this, money was lent any of the employees to build a home who had the ground clear of debt. Their savings up to $2,000 each were taken by the company and placed in a special trust fund, entirely separate from the business. Interest at six per cent. was allowed, to encourage the workman to save part of his earnings for old age. The funds received were lent upon mortgage on real property, generally to such workmen as wished to build homes. It was believed that this was the safest and therefore the wisest use of their savings which workmen could make.

THE STEEL CORPORATION'S PROFIT-SHARING

The most convincing proof of the steady march of labor to recompense more and more, based upon profits, and in forms drawing capital and labor into the peaceful bonds of mutuality, is to be credited to the United States Steel Corporation, the largest of all industrial corporations; and for which it deserves unstinted praise, as proving a genuine interest in the workmen and sagacious thought for its own.

To this step I invite your earnest attention, for it may well prove of surpassing importance and mark an epoch in the history of the relations of capital and labor. It may be even looked back to as having furnished the solid foundation for the solution of most of the troublesome questions between them.

It is in this form: Twenty-five thousand of the $100 shares of preferred seven per cent.

stock were offered to its 168,000 employees at $82.50 per $100 share, in different amounts according to their earnings, which were subscribed for twice over; nearly one-sixth of the men subscribed—one-half being salaried men. Twenty thousand more shares of stock were afterward provided, making 45,000 in all, worth about $4,500,000. Monthly payments are received. Another distribution of shares is intended next year.

One valuable and praiseworthy feature is that for five years those holding their shares and still in the service are given a yearly bonus of $5 upon their shares, and during a second five-year term a bonus, amount not yet fixed, is promised. The third feature equally praiseworthy is the resolve to set apart yearly from earnings, should these exceed $80,000,000, one per cent. of the earnings, and for each $10,000,000 of earnings an additional one-fifth of one per cent., for a fund to be awarded to such of their officials and men as have in the opinion of the Finance Committee best deserved it, as a reward of merit, and not pro rata. Such is the scope of this perhaps epoch-making advance which is rendered possible by the joint-stock form with shares in small amounts, easily distributable among many thousands of workmen.

OUR EPOCH-MAKING ADVANCE

It will be noted that the investment is at the risk of the men. This seems a feature which we may, however, expect the corporation to change as experience is gained, as the plan is most wisely stated to be subject to future changes. In most of the States of the Union, labor's precious earnings, surely the most precious of all capital, are a first charge upon property, and this I believe the only safe policy to follow. Every workman a shareholder would end most of the conflicts, which sadden us, between capital and labor. To effect this, every corporation could well afford to offer to distribute part of its shares among the saving workmen, and in case of disaster give preference to repayment of principal as a first charge. Any desired legislation with proper safeguards could be readily obtained authorizing corporations to make savings of employees, up to a certain sum for each, a preferred claim, ranking before mortgage or ordinary debts or the claims of shareholders akin to the Mechanics' Lien and the Homestead exemption laws. This seems due to the working-man, who, necessarily unacquainted with business, takes his shares upon trust and becomes the beneficiary or the victim of his employers. He should be considered as an inexperienced youth in the affair; besides, he is asked to invest not solely for his own, but at least equally for the advantage of his employer. His adviser is not a disinterested party, and therefore cannot be absolved from responsibility, which would, I am confident, lead the owners of the United States Steel Corporation to save their trusting workmen from loss through following its advice, intended to promote the mutual advantage of the company and the workers. The responsibility is not small, since the circular assures the workmen they are offered "a safer and more profitable investment than the workman could possibly find for his savings elsewhere." Much better, therefore, that legal form be given to the moral claim.

There is another point of view, the influence upon the prudent workman of distracting anxiety in regard to the absolute safety of what may be his sole provision for old age. He will see every morning the stock exchange quotations, for the American workman reads the papers. Only recently he would have seen the preferred stock of the United States Steel Corporation temporarily quoted lower than the price charged for it to him. This may mean little to the man of affairs familiar with the ups and downs of the mercurial stock exchange. But what must be the effect upon the uninformed workman? Of this I am well assured: the workman whose thoughts are upon the speculative surprises of the exchange will not prove desirable.

Speculation is the parasite of business, feeding upon values, creating none, and is wholly incompatible with the satisfactory performance of other regular work requiring constant care and caution. The workman's investment should never be at a risk, for if his thoughts are upon the stock exchange they cannot be upon the machinery, and machinery like art is a jealous mistress, brooking no rival claimant to its absorbing demands. In the interest of the employer, therefore, as well as that of the workman, the savings of the latter should be secure—here, as in other respects, their interest is mutual, and hence I believe the needed change will be made by the Steel Corporation in the near future. I cannot speak too highly of this experiment

nor give the Steel Corporation too much credit for making it, since it is declared to be in the experimental stage, and subject to future improvement, as all new schemes should be. Its able and progressive author, Mr. Perkins, is to be heartily congratulated.

A SPLENDID VISTA OF WORK AND CAPITAL

Thus we see that the world moves on step by step toward better conditions. Just as the mechanical world has changed and improved, so has advanced the world of labor from the slavery of the laborer to the day of his absolute independence, and now to this day when he begins to take his proper place as the capitalist partner of his employer. We may look forward with hope to the day when it shall be the rule that the workman is partner with capital, the man of affairs giving his business experience, the workingman in the mill giving his mechanical skill to the company, both owners in the shares and so far equally interested in the success of their joint efforts, each indispensable, without whose coöperation success were impossible. It is a splendid vista along which we are permitted to gaze.

THE PARTNERSHIP THE BEST FORM OF ORGANIZATION

Perhaps I may be considered much too sanguine in this forecast, which no doubt will take time to realize, but as the result of my experience I am convinced that the huge combination, and even the moderate corporation, has no chance in competition with the partnership which embraces the principal officials and has adopted the system of payment by bonus or reward throughout its works. The latter may be relied upon, as a rule, to earn handsome dividends in times of depression, during which the former, conducted upon the old plan, will incur actual loss and perhaps land in financial embarrassment. In speaking of corporations we must not forget, however, that there are many which are corporations in name only, their management being the life work of their few owners. These rank with partnerships, having all the advantages of this form.

The true corporation is that whose shares are upon the stock exchange and whose real owners change constantly and are often unknown even to the president and directors, while to the workmen they are mere abstractions. It is impossible to infuse through their ranks the sentiment of personal regard and loyalty in all its wonderful power. The step taken by the United States Steel Corporation is therefore no surprise to me, for I have long believed that such corporations would be compelled to adopt the best attainable substitutes for the fruitful features of the newer sytem, or suffer eclipse. In the sagacious policy of the United States Steel Corporation I see proof of that opinion, nor can I suggest a better form than that it has adopted, always provided the working-man shareholder be secured against loss.

THE BEST SUBSTITUTE FOR PARTNERSHIP

In the percentage allotted by the plan to reward exceptional officials we have for the huge corporation perhaps the best substitute attainable for the magic of partnership, which nothing however can approach. The reward of departmental officials may readily be secured under this provision.

In the bonus granted yearly upon shares held by employees we have proof of regard for them which cannot but tell, and the distribution of shares in the concern among them has an advantage which so far even no partnership has enjoyed, but which will no doubt be adopted by them, or some equivalent found; for the workman, owning shares in absolute security, will prove much more valuable than he without such interest, and many incidental advantages will accrue to the company possessed of numerous shareholding employees who may some day see their representative welcomed to the board of directors, which would prove most conducive to harmony, knowledge of each other on the part of the owners and workmen being the best preventive of dissatisfaction.

If the investment of the workman's savings be made secure, the rapid extension of the plan seems certain and can be hailed with unalloyed satisfaction; but in its present form it is obviously incapable of general application, since the officials of few corporations could or would incur the responsibility of inducing their workmen to invest in their shares as a security, and few corporations could or should inspire the needed confidence of labor that these are to enjoy an unbroken career of prosperity, for such has not been the history of manufacturing concerns gener-

ally, especially in our line, to which we may well apply the celebrated line of Hudibras:

"Many are the perils that environ
The man who meddles with Cold Iron."

EVERY WORKMAN A CAPITALIST

The idea of making of every workman a capitalist and of sharing large percentages of the profits among those rendering exceptional service will probably encounter the opposition of the extremists on both sides, the violent revolutionist of capitalistic conditions, and the narrow, grasping employer whose creed is to purchase his labor as he does his materials, paying the price agreed upon and there an end. But this opposition will, we believe, amount to little. It will even speak well for the new idea if scouted by the extremists and commended by the mass of men who are on neither dangerous edge, but in the middle, where usually lies the greater wisdom.

Meanwhile, here is the germ of a promising plan offered as a solvent for one of the pressing problems of our age, which may prove capable of development. As members of the Institute let us receive, study and discuss it with open mind. That the problem will be solved, and that the two allies are some day to live in friendly coöperation, let no one doubt. Human society bears a charmed life. It is immortal, and was born with the inherent power or instinct, as a law of its being, to solve all problems finally in the best form, and among these none more surely than that vexed question of our day, the relations between these Siamese Twins, which must mutually prosper or mutually decay, and for which separation means death—Employer and Employed—Capital and Labor.

THE JOYS OF FRESH-WATER FISHING

WHEN, WHERE AND HOW TO GO AFTER TROUT, BASS AND OTHER FISHES OF OUR LAKES AND STREAMS—WHAT TO WEAR AND WHAT TO CARRY—TROUT CUSTOMS ONE MUST LEARN—STRENUOUS PERSONAL EXPERIENCES OF A TRAINED ANGLER

BY

EDWIN SANDYS

IF it were possible to gather together the fishing folk of the fresh and salt waters of this continent, the massed multitude would be such an assemblage as the world has never known. If it marched for ten miles in true array its trail would show like a great scar on the face of the earth and perhaps remain visible for many seasons, as do the old buffalo trails. The vanguard would trample sweet grasses, the rear guard be coughing in peppery dust. And the marching millions would be those who at one time or another had felt the witchery of angling, gentlest and finest of all sports in the wide world.

Fishing in one or other of its several forms is the most popular of our sports. There are excellent reasons why this should be. In the first place, fishing is clean in the sense of being singularly free from any demoralizing influence. It leads its devotee into pleasant places, and because the true angler needs must also be part poet, such ears, perhaps, best hear the sermon of streams and stones. There are no cleaner things than pure air and water, and did fishing offer no more than these it would be entitled to consideration. But it does much more, for of it might truly be said: Its ways are pleasant; its paths are peaceful—which means much.

The more important fishes of our fresh waters, grouped according to habitat, include the salmon, trout, the ouananiche and the grayling, of rapid rivers and brooks and cold lakes of the rock-bound regions; the black, the rock and other basses and the perch of streams and lakes other than typical trout-waters; the maskinonge and pike of the Great Lakes and their tributaries, and the various pickerel and the wall-eyed pike common to weedy waters of a great extent of country.

Of the salmon and its fishing it is unnecessary to speak at length. Very few of the salmon rivers of the East are open to the fishing public, and only a specialist with the two-handed tackle is likely to attempt the capture of the king of game-fish. The ouananiche, too, is not a fish for the masses. It is a game fighter, and at certain times a free riser, but it is found in but a few of the northern waters. Its stronghold is Lake St. John, that mecca of the sportsman northward bound from Quebec City. In Lake St. John and its tributary rivers, but especially at the lake's outlet, which is the beginning of the famous Saguenay River, is the stronghold of the high-leaping ouananiche, and there the acrobatic small salmon has been taken by many a tourist-angler. And there are other salmon. Some of the waters of the Far West at certain seasons are visited by countless salmon of allied yet distinct species, and many a fine fish, though inferior to the Atlantic species, falls victim to the common trolling-spoon and other devices. I have killed fish in Buzzard Inlet, near Vancouver City—in fact, within sight of the city—which were by no means to be despised as sport-makers. For them a stiff trolling-rod is the most sportsmanlike tool, but the great majority of the fish taken fall victims to the trolling-line, which is dragged behind a boat and held in the hand.

Beyond question the most popular of our game-fish is that spangled aristocrat of the hurrying stream, the brook-trout. In addition to his beauty and palatableness, there is a dash and go about his method which strongly appeals to those who like rapid action in their sport—and who does not? Furthermore, the typical trout water is in itself a most beautiful thing. Be the region plain or picturesque, the trout stream surely travels the most attractive part of it. Follow its musical bickerings down a valley and you will be led through one of Nature's picture galleries, with choice bits arranged in marvelous profusion upon either side. Glorious greenery, lichened rock, grim cliff, echoing vault, thunder-voiced fall, bubble-spangled ripple and mystic, velvet-shadowed pool follow in endless succession. And with it all the silver song of merry waters, perhaps chording true at shadowtime with the contralto of the thrushes. And so you lose yourself in the enchanted cavern of green.

There is nothing evil to be found in all our hundreds of miles of trout waters. Only the celestial pavement itself is cleaner than the pure, sweet water, forever washing its bed and bounds and forever singing o'er its wholesome task. A trout stream is a good place for most folks to be. And we have an abundance of streams—for, broadly speaking, a rock country is a trout country. To remove the trout country from this continent would be to render it irrecognizable. There would remain prairies, marshlands and heavily wooded lowlands, the regions of sluggish streams and placid ponds. The best of the easily reached free fishing is to be enjoyed upon the hill streams of the Adirondacks, Pennsylvania and Connecticut. If you go farther there are still within reasonable distance the famous waters of the Rangeley and Moosehead systems of Maine, the Megantic waters of Quebec, the wilds of New Brunswick, the marvelous silver net of the north shore of the St. Lawrence and of northern Ontario, which extends to the newly exploited region of the upper Ottawa and to that stronghold of big trout, the north shore of Lake Superior. All of these regions, both American and Canadian, are comfortably accessible by rail, and no railroad worthy of the name fails to pay strict attention to the comfort of anglers.

I have fished in every one of the extensive regions named, and the average angler may visit any one of them with a certainty of enjoying fair fun and an excellent chance of extraordinary sport. Were the purse, leisure and experience, or lack of it, of every reader known, it would be a comparatively easy task to name one particular water which would be almost certain to meet the requirements; but lacking full knowledge of individual desires, any attempt at the rôle of guide-post would be absurd. But the individual can get helpful, because as a whole reliable, information by securing a sporting guide-book of a railroad traversing the preferred country. Because I have written some of them and read the others I know they are not dangerously enthusiastic, especially over the more remote waters. In fact, not a few of them actually fail to do full justice to the regions they refer to. The pen of a wizard of word-painting could not overdraw the beauties of at least four-fifths of our trout waters which will, under ordinary conditions, yield all the fish that clean sportsmanship can demand.

The matter of outfit is wrongfully a problem to the novice. An expert needs no advice, and the novice's safest course is to consult some experienced friend or the expert of any one of our large dealers in tackle. The last thing a reputable tackle-dealer would care to do would be to impose upon a patron who by fair treatment could be made a permanent customer. Tell the dealer exactly where the fishing is to be done, and the odds will be strongly in favor of his knowing enough about the water and its possibilities to enable him to forward a workmanlike and in every way satisfactory outfit. A popular tackle-shop is a great place for gossip. Veterans of many waters tell of their successes while purchasing fresh supplies, and from their talk and orders the dealer obtains a shrewd knowledge of what is best for many waters which he perhaps never has seen. The outfit need not be expensive. Excellent rods and reels are now offered for a fraction of the old-time prices. The necessities include rod, reel, line, leaders, flies, creel and waders. One of the most satisfactory of the very cheap rods is of steel, but very fair ones of split bamboo, lancewood, etc., are to be had for a few dollars. I have fished with an outfit which, exclusive of the waders, did not cost five dollars, and with others which cost many times that sum, yet found no marked difference in the fun.

As to flies, their name is legion and they vary with the months. A useful assortment for June includes the hackles, alder, green drake, marlow buzz, gray drake, oak fly, orange dun, black gnat, blue blow and white miller. For July, the coachman, white miller, professor, grizzly and brown palmers, black midge, July dun and red ant. For August, the royal coachman, goslin, green camlet, August dun, coachman, shad, governor and flaggon are useful. If baits *must* be mentioned, the most useful are angle-worms, bits of fat pork and the eye or fin of a trout. The costume should be inconspicuous. Tweed coat and trousers of dull gray or drab admirably blend with the surroundings of most trout waters. A soft felt hat of color to match the suit is the best, while for underwear there is nothing equal to pure woolen fabric of light weight. Many novices at angling fail to recognize the great value of pure wool next the skin. A man fishing a trout stream is apt to get more or less wet, and damp wool is the least dangerous of all damp fabrics. Cotton and all mixtures containing a large proportion of cotton, if once dampened, soon feel as cold as so much tinfoil, but one seldom experiences a chill if wool be worn.

One cannot move too cautiously along the stream. Fish may have no visible ears, but they can either hear or feel the jar of a clumsy foot. It is better to fish down-stream or across the current rather than up-stream. Don't be in a hurry. Don't tramp heavily, or disturb stones with the feet. Don't allow your shadow, or that of the rod, to play upon the water ahead. Don't forget to kill a fish before putting it in the creel, nor to eat it as soon as possible after killing.

The black bass is the trout's greatest rival; indeed, not a few anglers esteem the square-built, swart gladiator above the jeweled fop of the brawling brook. The two species of black bass, the large- and the small-mouth, are widely distributed. The best of the eastern waters are in New York and New Jersey and New England. As a rule, there is good fishing in the Niagara, at many points on the St. Lawrence, and in the Rideau, the Trent, Sharbot Lake, the Muskoka Lakes, the Severn, the wonderful Georgian Bay, and many other Canadian waters. In Wisconsin one may enjoy fine sport, and the same is true of the Fox Lake Chain, of Illinois. Lakes St. Clair and Erie offer excellent fishing, but the mere mention of our bass waters and those of the Dominion would be a heavy task.

Fly-fishing for bass is notoriously uncertain, yet with fish in rising humor it is royal sport. Any first-class shop can supply fly-tackle. Among flies of proved merit are the bucktail, Governor Alvord, ibis, silver doctor, coachman and Lord Baltimore. Deadly baits for all bass include crawfish, white grubs, live minnows, frogs, worms and grasshoppers. For all-round use they would rank in order as named. There is a wonderful variety of spoons and lures for trolling. Of these, the most complicated usually are the least desirable. Trolling with a stiffish rod of any standard make is capital sport, but the popular trolling with the long hand-line hardly deserves that name. I must confess I do not care for it. Still many people fancy it, and there can be absolutely no question about its deadliness.

The mighty maskinonge and his cousin pike are taken by trolling-rod and hand-line. The two fish are inhabitants of the Great

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AN EXCITING MOMENT

PULLING HIM IN

A CONTENTED SPORTSWOMAN

Lakes, their important tributaries, and some smaller waters. Perhaps the best known maskinonge waters are in Wisconsin, the second best near the head of the St. Lawrence on the Canada side. The deadliest lures for both species are live minnows, spoons and some of the artificial minnows. The trolling is done from a boat, and an experienced hand

Photographed by O. T. Davis

A WESTERN TROUTING STREAM AND CAMP

at the oars is worth his weight in almost any valuable substance.

The "gentle art of angling" is not misnamed, yet it has its thrills and occasional dashes of the strenuous. Upon one memorable day I pulled a skiff across the beautiful Trout Lake, in the Nipissing country of northern Ontario. The air had been gray with smoke for a couple of days, but there seemed to be no cause for alarm. Leaving the skiff on a rock-ledge at the mouth of a little stream, I waded the latter for perhaps one hundred yards upward. There were plenty of fingerling trout, almost too small to bother with, but a mess for supper was wanted. The woods all about were very dense, and by the time a dozen fish had been killed the smoke had become too unpleasant for further effort. It was impossible to see many yards in any direction, and I had about concluded to retreat when a sudden gust of hot air struck me. All unsuspected, a great fire had swept through a hidden valley just ahead, a change of wind had turned the flames, and in a few seconds the tree-tops almost overhead were flaring and roaring like blast furnaces.

Only those who have seen it can understand how swiftly a forest fire can advance. Wading a stream and casting here and there as one slowly advances are both easy and pleasant, but running or floundering through that same waterway a few leaps ahead of a conflagration is a different matter. Dropping the rod and creel in the brook, I made a dash for the outlet. The roar above and behind was something terrific, and in a minute the heat had become almost unbearable. Waders are the worst possible foot-gear for speed, but luckily I was in the brook—the safest place. It seemed like two hours—most likely it was two minutes—before I saw the bow of the skiff poking through great masses of smoke. She was still ten yards away when a huge banner of flames streamed directly over her. There was no time for another stride. It was *dive* or *cook !*

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WAITING

The icy coldness of the water and the deadly drag of the waders were not pleasant,

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ON THE WAY TO THE FISHING GROUNDS

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THE DAY'S FISHING OVER

Ready to start for home

Photographed by Frank A. Perret

THE ENTHUSIAST

Photographed by Andrew Emerine, Jr.

A FULL HAUL OF MINNOWS FOR BAIT

but by cautiously working along the steep shore-rock I managed to reach safely the blade of a trailing oar. A vigorous pull floated the skiff, and in a minute I had her a few yards beyond the fire lines. When I ventured to climb into her the varnish on the wales was "tacky," and half her length on one side was blistered. Had any one pointed out the place and said that an able-bodied man could possibly have got into trouble there with a forest fire, I should have scoffed at the idea. But we live and learn. None but an expert swimmer and diver ever could have reached the skiff, which offered the one means of escape.

Photographed by Andrew Emerine, Jr.

GOING AFTER BAIT

Upon another occasion, in northern Michigan, I was trout-fishing in company with a veteran timber-cruiser, a man who knew everything about the rough bush-life. In time we reached a bend in the stream where a lot of small logs had jammed during the spring freshet. My comrade unconcernedly ventured upon the logs, and, before I could follow, by some mischance he stepped upon a loose one and instantly disappeared. Had I not been looking at him it is likely I should have imagined he had crossed and gone into the brush upon the farther side. One log of all the mass was rolling, and a hand showed at one side of it. To dart across and seize the

Photographed by Frank A. Perret

FIGHTING WITH A GAME ONE

Photographed by W. A. Tenney
ON THE BARN DOOR

hand occupied very few seconds, but to my horror I could not pull him up through the narrow space through which he had slipped. To set a foot upon the log either side the opening and shove with all strength was the only hope. For seconds I clung to the wrist and strained mightily. Slowly the logs separated and up he came till he was able to twist upon his stomach across a log. Half-drowned as he was, he had not lost his nerve. "Do—don't let 'em squeeze back on me!" he gasped, and a moment later he was on his feet. Most men would have weakened then, but he was iron. He had swallowed a lot of water, had been cheek-by-jowl with an awful death, yet he had no idea of proving false. The logs were slowly slipping farther apart and I was standing like a certain large gentleman of Rhodes, and unable to stand much more spreading or to spring to either side, while of course to slip into the water meant to enter the trap he had just escaped. In a few seconds he seized my hand and one quick haul carried me to firm footing. The logs at once closed like a gigantic trap. When we reached solid ground my comrade almost collapsed, and for half an hour he was a very sick man. Later he said: "I held my breath as long as I could, calculatin' you might try to get me, an', pardner, I'll never forget that little turn. I reckon I was in a mighty tight place."

All things considered, I think his remembering that I might be in difficulties, and his quick solution of the problem, proved as high a type of true courage as might be found.

Photographed by Henry Troth
THE YOUNG FISHERMAN

Photographed by Chester D. Moses

THE ART OF CAMPING

WHAT TO TAKE ALONG—WHAT TO WEAR—HOW TO MANAGE —PRACTICAL LESSONS OUT OF A LONG EXPERIENCE

BY

DAN BEARD

OFF FOR A DAY'S SHOOTING

MOST of us are so accustomed to having other people build our fires, make our beds and cook our meals that we are more or less helpless in the woods, where we are away from the butcher, baker, candlestick-maker, doctor and trolley-cars. We have, to a certain degree, lost our primitive self-reliance, but there is only one way to learn woodcraft, only one way to learn to camp, but one way to learn how to do anything, and that is to try it.

There are so many kinds of camps patronized by those in search of recreation that it would take several volumes to treat of each properly.

There is the freight-car side-track camp, the caravan (van-wagon) camp, the floating (houseboat) camp, the old-fashioned camp-meeting, and the "picnic" camps. The latter dot the shores of New Jersey, the lake's side at Seattle, in the vicinity of Spokane, Devil's Lake, North Dakota, and the groves back of Winnipeg, Manitoba.

Such camps have their attractions, but they have no better claims to being the "real thing" than the so-called permanent camps, which are simply more or less pretentious houses built in the woods.

When one talks of camping, one usually means living under bark, brush or canvas in a "howling wilderness." It is possible to order a portable house and have it erected at the chosen spot, and in stormy weather such a shelter will appeal to the most hardened camper; but this is not savage enough, not primitive enough for the modern strenuous Americans; therefore we will eliminate this whole charming list.

The Davy Crockett, Daniel Boone or Simon Kenton camps consisted of a blanket and a camp-fire, but we are not made of quite such stern stuff as these old heroes and must take a middle course. To begin, make bags for your shoes, your comb and brush, your fishing-reels, your fly-hooks, and for everything. Make the bags with draw-strings, and make them of different material—oil silk for your tooth-brush, canton flannel for your fish-reels,

Photographed by the Detroit Photographic Company

GOING INTO CAMP IN THE MIDST OF THE ROCKIES

and *different colored* chintz for the other objects. The color is a great aid in identifying the contents and acts as a labor-saving of much time and wicked thoughts.

In the place of trunks use water-proof canvas clothing and provision bags. They come with double tops and edges strongly bound with linen braid, and in sizes varying from nine inches in diameter and two feet in length to eighteen inches in diameter and three feet in length, and cost from seventy-five cents to one dollar and a half, with an extra dollar for a lock. Personally, I have never had occasion to need a lock on my luggage bags, their disreputable appearance being a sufficient protection; but new bags might suggest valuable dunnage, and a lock may save the contents of your kit. A couple of years ago

Photographed by W. G. Walker

PACKING FROM ONE SITE TO ANOTHER

Photographed by Beard

THE FRAME FOR AN INDIAN WIGWAM

my wife and I took a two-hundred-mile journey in the Rocky Mountains, using ordinary feed-bags for trunks.

Each individual of a camping party should be supplied with a good jack-knife, a pocket compass, and a water-proof match-box made

Photographed by Beard

A TYPICAL SIOUX WIGWAM
Devil's Lake, North Dakota

Photographed by Beard

A CAMPER'S LOG HUT

Photographed by O. T. Davis

A WOOD-CHOPPERS' CAMP

of two empty ammunition shells of different sizes which fit snugly one over the other. Each person should also possess an india-rubber drinking-cup. Put in with your things a small bag of wire nails, several water-proof canvas water-pails, an ax of not less than three pounds' weight, and some common stable lanterns, or, better still, some folding aluminum lanterns, in bags. I have one of these lanterns which has been with me on many trips, and I find it most convenient.

Do not forget a small leather medicine case containing screw-top bottles of simple medicines—cholera mixture, ginger, court plaster, surgeon's plaster, etc. Also a bag of needles, thread, common pins and safety-pins. If ladies form part of the company, put in a liberal allowance of hairpins and they will count you as their friend.

One of the strangest sights I ever saw in a wild country was a little minister garbed in

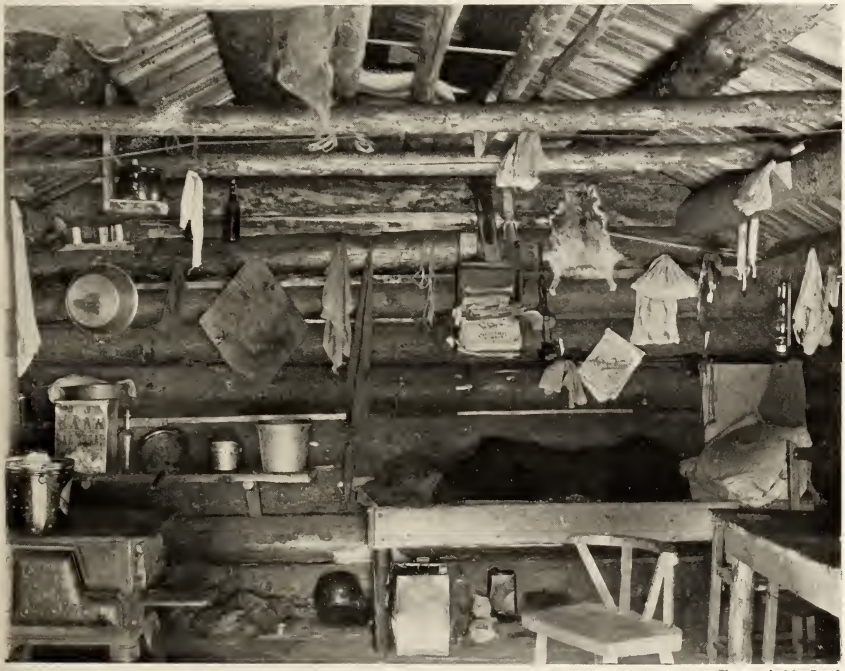
Photographed by George Stark

A HUNTING-CAMP IN THE OZARK MOUNTAINS

A CAMP BUILT IN A HALF-HOUR

Photographed by W. G. Walker

solemn black, white "dog" collar, buttonless vest and stiff black straw hat. The dominie was standing in a leaky boat in the midst of a primeval woods, fishing the boiling waters of a mountain torrent. At his back a cataract roared and pounded the rocks, churning the water to white suds; above him the eternal snow glistened on the mountains, and but a



A LOG CAMP INTERIOR

Photographed by Beard

Photographed by Beard

A FINE STRING OF FISH

The author and his guide

Photographed by Beard

THE GUIDE'S LEISURE HOUR

few yards away a gaunt cinnamon bear was quietly nosing among the driftwood.

Don't wear straw hats; old soft felt hats or cloth caps are better adapted to camp. If you have special clothes for camp, the "Loden" woolen stuff manufactured in the mountains of Tyrol, Styria and Bavaria is probably the best material; it is all-wool and water-proof. Pontiac shirts are prized in the Northwest.

Photographed by A. W. Dimock

A SHELTER-CAMP NEAR CIVILIZATION

Photographed by Beard

A WIGWAM CAMP IN A CLEARING

Photographed by Chester D. Moses

AN OPEN CAMP IN THE ADIRONDACKS

Photographed by A. W. Dimock

A TRAPPER-GUIDE'S CANOE ON THE MONTREAL RIVER

Photographed by Beard

GETTING SUPPER IN CAMP

but ordinary woolen shirts, woolen clothes, two suits of woolen underwear, three pairs of woolen socks and a sweater will be all that is necessary. The Mackinaw jacket of blanket, worn by the lumberman, is a good coat and inexpensive. Corduroy is pleasant to wear when dry, but when it is wet it is as cold and clammy as tripe. Khaki is good for hot-weather clothes and the genuine article is practically water-proof. Knickerbockers look well on the golf-grounds, where biting insects, thorns, burrs and automatically boring grass seeds do not abound, but sore and itching legs will make one appreciate long trousers. Have them made with a slit at bottom to button tight around ankle

Canvas leggings are noisy, laced and buckled leggings catch on the underbrush, and the leggings which fasten with a spring will often spring loose at inconvenient times. Probably the best covering for the legs is what is known as the russet pigskin puttee-strap leggings or cross-strap leggings. The high-laced shoes of the prospector, miner and mountaineer, with hob-nailed soles, are excellent footgear, but low ones are better when worn with leggings; any stout, comfortable shoe will do very excellently for camp.

A woman or girl with a good figure is charming in a hunting-suit, and, charming or not, she must wear a hunting-suit or stay at home. A modest-colored Alpine or Tyrolese hat, with the green tail feathers of a domestic cock, combines use with a stylish appearance. A mannish shirt of wool, with pockets and rolling collar, will be found comfortable and

Photographed by Chester D. Moses

SHELTER FOR THE NIGHT IN THE ADIRONDACKS

convenient, and a silk handkerchief around the neck will be an agreeable substitute for the uncomfortable stiff collar or stock. A Norfolk jacket of tweed with an abundance of flap pockets, and a short skirt of the same material made scant in front but full in back, will combine picturesqueness with utility.

With these clothes wear full knickerbockers, buttoned below the knee, high laced boots or russet pigskin cross-strap leggings. The foot-covering should be stout, comfortable and hob-nailed. Children of both sexes should wear overalls in camp.

A wire broiler, a frying-pan, a tin pail, a coffee-pot, tin cups, tin plates, cheap kitchen knives and forks and nickle-plated spoons make an inexpensive kitchen outfit. If you object to tin table dishes, take blue-rimmed cups and saucers of graniteware; the blue-rimmed is superior to the gray for many reasons. Graniteware is easily cleaned and does not break. But the best all-around kitchen and table outfit is made of aluminum. My old camp-fire friend, Mr. Abercrombie, loaned me such a kit, and it weighed so little and packed into such a small space that I was charmed with it.

At any reputable outfitter's you may purchase a kitchen outfit and table dishes of retinned steel, which will cost you from $4 to $8, and weigh from seven pounds to twenty-two pounds, according to the number of persons for which it is designed. Aluminum sets cost from $10 to $12 for two people and from $28 to $30 for eight people. The utensils are made to fit into one another, or "nest," and pack in canvas bags. The outfit occupies a surprisingly small space and only weighs from six to fourteen pounds. See that your coffee-pots have lips in place of spouts.

Even if you expect to get plenty of fish or game, you will be prudent to take a good stock of provisions. It is a serious thing to be poisoned by canned meats when one is a long way from a doctor, and one experience of this kind has made me look with suspicion upon meats put up in this manner. The regular United States emergency ration is probably the most practical thing of the kind on the market. What is claimed to be three meals is compressed into a square tin can about the size of a pint fruit-can, which contains a packet of tea, a packet of seasoning and a solid lump of dried meat and vegetables. Mixed with water and browned in a pan, it is hash, or it may be fried as hamburg steak, or weakened with water and done up as a stew. If you use canned goods, choose those in flat cans. These goods are squeezed into the smallest possible space. Personally, I prefer boneless bacon to any canned meat, and a lump of salt pork to use in cooking game or fish. Best allow for each man for a two-weeks' trip one-quarter pound of pepper, one pound of salt, two pounds of dried apples, peaches or any sort of fruit, one and one-third pounds of coffee in tight can, four pounds of lump sugar (if spilled, lump sugar is not lost), thirteen pounds of flour in sacks, one-half pound of baking-powder, three pounds of corn-meal in bag, one and one-half pounds of oatmeal in bag, one and one-half pounds of tea in bag, three cans of condensed milk, one can of evaporated cream. Beef capsules are very handy and quickly prepared. Take a few of them, also some potatoes—as many as you have space to carry—and a small bag of dried onions. Don't forget some cakes of brown soap for dish-washing.

You may add to this list as many luxuries as your purse or transportation facilities will admit, and you may cut down the list. I have not made the allowance meager, because I know how gnawing a camp appetite is when one goes two weeks on short rations. A sheet-iron camp-stove is a great convenience, but it is not a necessity.

In camping near thickly settled places, keep back from the traveled roads and you will avoid tramps. In selecting camping-grounds many things are to be considered, and only general directions can be given. A high ridge or an open, breezy point on lake or river is less liable to be infested with mosquitoes and flying insects than more sheltered grounds. Avoid gulleys, swales and damp meadows; they are liable to be flooded by the first summer shower. The camp should be dry and well drained; gentle-sloping ground is best. Avoid big timber: a thunder-storm is liable to come and uproot the trees or shower large limbs upon your tent, or even destroy it with a burst of electric fluid. Make a clean camp; have a toilet tent and a pit for the garbage some distance away, *below*, not above, your supply of drinking-water.

In locating your camp the most important thing to be considered is the proximity of fuel and water. The latter is much more

easily transported than the former. No one who has ever attempted to carry an armful of cord-wood over rough ground, or tried to drag a back log through the brush, will doubt this statement. Dead standing timber makes your best fire-wood. Birch, chestnut, maple and pine are excellent fuel, but green hemlock and spruce are poor stuff to burn, and for that reason they make the best of back logs for camp-fires or side logs for kitchen fires.

Pine knots may be kicked from the red, decaying trunks of the prostrate trees, and they are so full of pitch as to be practically water-proof; split into slivers they make the best of matches; the slivers bunched together loosely make excellent torches. Birch bark kindles readily, wet or dry.

Don't build a big, roaring fire in the woods; it is not only dangerous for your tents or shacks, but it also kills and disfigures the near-by trees and is apt to start a forest fire. The tenderfoot in camp does not know the terror of a forest fire, but after he has escaped from one with his clothes and hair singed and his eyes and throat raw from smoke, and has seen the smoke roll up in dense masses higher than the summer clouds, he learns to fear these terrible fires and becomes more careful. Seven or eight feet from your tent build your camp-fire; first drive two stout green stakes about three feet apart, letting them incline slightly away from the tent. Cut three logs about four feet long of green hemlock or spruce; put the largest one against the stakes on the ground, the next in size on top of the first, and the smallest against the stakes on top of the last log; this makes the back of your fireplace. Make a pair of andirons of two short green logs placed at right angles to the back logs, with their butts resting against the back logs. Between these put birch bark, dry chips, pine matches and small sticks, and lay your dry logs across the green wood fire-dogs or andirons. This fire should burn all night. The wood should be green and dry, hard and soft mixed, for an ideal fire.

Make your kitchen fire in a trench or between two green hemlock logs; let the logs be eight inches apart at one end and four inches at the other end. Make the fire of the embers of your camp-fire and small wood, and remember that a bed of glowing coals is better for cooking purposes than a smoking, flaming fire. In the New York and Maine woods fires are now usually made of dead wood, but in the good old times, before these forests degenerated to picnic grounds, the camp-fire was made of birch saplings, cut in six-foot pieces, laid lengthwise before the back logs and ignited in the centre with a dry branch of spruce. The sticks would burn in half and then the ends were pushed together; it took a half-dozen feedings to keep such a fire going till morning on a cold autumn night. Always extinguish your fires on leaving the camp and place two sticks (thus, X) over the ashes as a sign that the fire is out and the next comer may use the site for his camp.

A couple of squares of light water-proof duck, six feet by eight feet, with metal eyelet-holes around their edge, are valued more by a backwoodsman than a cumbersome tent. Nevertheless, tents are very comfortable, and individual tents are better than large ones made to protect many persons.

On a pneumatic mattress and in water-proof sleeping-bags my wife and I spent our first night without tents or shelter in the Rocky Mountains. It was raining when we crawled into our comfortable beds, but we pulled the flaps over our heads and were asleep inside of two minutes. We did not awake until the sun peeped over the mountain and shone in our faces. Sleeping-bags and pneumatic mattresses are great inventions, and I would rather sleep on a "blow-bed," as the cowboys call them, than to spend the night protected by a circus tent. But lacking a "blow-bed," the next approaching it in comfort is the couch of boughs, with a log pegged down at the head for a head-board and another at the foot for a foot-board.

Select some healthy branches of balsam and make a bed of them eight inches deep between the logs. Do this before the dew collects on the leaves, using branches about twelve inches long.

Begin at the foot of the bed and work toward the head, placing the balsam as close together as possible, with the tops slightly inclined toward the foot of the bed. Over the tops of the balsam scatter the fine tips of hemlock and spread your blanket on top. Hay, dry leaves and even green weeds, when covered by a water-proof blanket, make a good bed. Don't try to shirk work: it is the outdoor work which supplies you with the health for which you are in search, and when every one lends a hand work is a frolic.

THE MOST HEALTHFUL VACATION

THE HEALTH VALUE OF VARIOUS METHODS OF RECREATION—REAL REST VERSUS A CHANGE OF EXCITEMENT—THE WORST VACATION OF ALL, THE HOTEL VACATION—WHAT GOLF AND FISHING CAN DO—NATURE THE BEST PHYSICIAN

BY

DR. A. T. BRISTOW

IF ever a nation needed to be taught the necessity of vacations it is our nervous, strenuous American people. Rest is a necessity, not a luxury, to the man of affairs. He will find it an economy as well. The management of our great railroad lines well understands what the strain of running high-speed trains means for the nerves of the engineer, and so the men who sit in the cab of the fastest express trains are not required to run every day, but only on alternate days, in order that their nervous systems may have time to recover from the strain of excessive and long-continued speed. Many high officials treat their engineers with more consideration than they do either themselves or other employees. They are careless of a wreck that involves the broken health of one life alone, but they are careful of the life which controls the fate of a fast express. Nature is as exact a bookkeeper as is the cashier of a bank and requires payment as remorselessly.

A man may go to his physician and by the aid of such drugs as strychnine or other powerful nerve tonics defer the payment of his debt, but he will have to pay a heavy rate of interest. It ought not to need the warning voice of a prophet to convince the worried and irritable man of affairs that what he needs at this time of the year is not a drug, but rest. He has no right to suppose that nature will overlook particular sins against the laws of health any more than he has to expect the cashier of a bank to honor his draft when he has no funds. If you insist, if society insists that you must keep the pace, you must imitate the example of the man who runs the fast express, and keep yourself fit. A vacation by compulsion is something to be avoided. A man who recovers from an attack of nervous exhaustion in one year is fortunate beyond his deserts. Take a yearly outing at your convenience or a year's outing at nature's. The first method is the cheaper.

There are certain errors into which many men who lead sedentary lives at their desks are prone to fall when they take a day off. The most usual thing for the business man is to betake himself to some nearby hotel in the country or by the seashore and spend his time lounging on the piazza in company with the inevitable cigar. In the evening he diverts his mind with games of chance, and patronizes the hotel bar, getting to bed by midnight or later. An occasional drive on the beach or over country roads affords some relief to the monotony of such a life. All the time three hearty meals a day are consumed. Usually meat is taken plentifully at each one, and often wine at lunch and dinner. Never active at any time beyond the physical exertion required in everyday life, the man who spends his vacations, be they short or long, after this manner, is getting some rest from the routine of business, but is neglecting his bodily welfare, since he is inviting gout, renal difficulties, and enfeebling his entire muscular system, the heart included. He has committed two serious errors: lack of suitable exercise, and indulgence in hearty hotel fare far beyond the capacity of his nutritive system to assimilate or the excretory organs to dispose of the waste.

The golf-courses which are now appendages of every well-equipped summer resort have done more to correct the former error and promote exercise in the open air than any other game or outdoor sport that has been invented. Golf has been a godsend to the man in middle life in need of exercise. For him tennis is too great a tax on muscles that have grown soft from disuse and for

a heart accustomed to a slow and sober pace, nor is the bicycle much better. If there were no hills to climb the wheel would be an ideal form of exercise, but many a man has toiled up an ascent on a high-geared machine and overstrained his heart. The decline of the wheel has not been altogether a matter of fashion, but rather a recovery from a craze which was certain to make mischief for men used to sedentary lives whose muscular systems were unable to respond to the demands of hill-climbing. Therefore, to the man of affairs who betakes himself to the golf-links on Saturday afternoons and walks several miles over rolling downs, using all the muscles of his body and abusing none, the wise physician will say approvingly, "You are taking the form of exercise best suited to your age and condition." The excitement of the game, with its unending variety of chances and hazards, the element of skill, all have a tendency to divert the mind and charm away the cares of business. So to the unfortunate who plays not golf we would say, "Go and learn as quickly as possible if you would live long in the land." Golf is an enemy to gout.

A vacation spent in a hotel is better than no vacation at all, but the man who wishes to secure the best results from the days which he spends in search of rest and renewed vigor will not seek the artificial life of our great hotels with all the attendant excitement, false standards of living, and a table which is an invitation to gluttony. So we in our struggle with the gigantic forces which make up modern civilization must return to nature for refreshment and renewed strength. The forest, the mountains and the streams hide the elixir of life. We need to get away from crowds, from idle gossip, from the trivial observances of society, the fetters of custom. There is no rest like that which is hid for the weary within the shady recesses of the great woods, and camp life is far preferable to that counterfeit of camp life, a hotel in the mountains. You can sleep as soundly in a bark camp on a thick bed of balsam as on the softest mattress in a hotel bedroom. A tramp through the woods is what you need for both mind and body. The fatigue will bring to your tired eyes sleep far more refreshing than the stuporous slumber you have experienced in a hotel, superinduced by late hours and the plethora of overeating without sufficient exercise. Remember that there is no better exercise for any one than walking. It has two great advantages over the wheel and the automobile: it gives the rambler time to learn needed lessons from nature, and it is free from the excitement of high speed, which is the very thing that a vacation should avoid. The man who spins along the highways on a bicycle or hurls himself through space in a high-speed, ill-smelling automobile is not resting. He is simply substituting one form of mental stimulation for another. He is like those unfortunate victims of the drug habit who go from morphine to cocaine and from both to whisky. Their diseased nerves crave some kind of artificial stimulus. So it is often with our business men in their relaxations.

What these men need most is the repose of the woods, the calmness of spirit that comes to the tired mind only amidst mountain solitudes. To invite a man of active mind to a ramble through the forest without an incentive is, however, almost as bad as to advise him to saw wood for exercise. Such an occupation affords exercise, but it is a nauseous dose which is too often taken submissively if not with cheerfulness. There is no better motive for the forest wanderer, whether his paths be by mountain stream or highland tarn, than the time-honored sport of good old Izaak Walton. Go a-fishing.

The angler's art is but a pretext or rather the incentive to a ramble, and not the sole object of the fisherman, unless, alas! he belongs to that too common variety, the man whose sole object is his catch. Such a man fishes with a worm, hides fingerlings in the depths of his basket, and photographs his catch as a witness of his crimes. He is not a fisherman, but a butcher. A yellow primrose on the river's bank is to him a primrose and nothing more. The true fisherman loves to catch fish, to match his wits against the wary trout, but as he wanders from pool to pool the songs of the birds greet him restfully; every turn in the stream reveals a nook in which strange wild flowers nestle. The gentle excitement of the sport prevents the scene from becoming monotonous. The element of chance, the uncertainty of the catch add the drop of tabasco sauce which gives zest to the day. And the noontide meal by the brink of the stream!

When did a meal have a more delightful flavor? Delmonico never served a trout like unto those we have eaten by the banks of a mountain brook with the clear blue sky above, the waving forest round about and the murmuring stream at our feet. The hour of contemplation comes afterward with the pipe of peace in our hand instead of the relinquished rod. How far off the city seems! Are there such things as corporations, trusts, stocks, bonds; electric lights that amaze the sight, harsh warnings of trolley gongs, the rumble and grind of the wheels and the brakes on the elevated road which affright the ear? The harshest note that breaks the stillness here is the boom of the bittern in the distant marsh. Home to camp the fisherman goes, taking a cast in this silent pool in which the trout rose in the forenoon to his cast but missed the fly, or in that dark hole deep under the bank in which a vigilant eye may detect the brown sides of a trout with lazily waving fins and tail—an old campaigner not easily caught.

So the shades of evening find the ramble ended, and no harsher beams than the soft radiance of the stars or the gentle spark of the fireflies and the glowworm light the wayfarer to his repose.

It is true that a fisherman is like a poet—born, not made; but to those unfortunates who have been denied the fishing instinct, and that contemplative frame of mind that accompanies it, there are other incentives which are able to make the haunts of wild things attractive. One may hunt without the aid of rod or gun, and find in the chase satisfaction without slaughter. To a man who has walked through the woods for exercise much as he would saw wood by a woodpile, a walk through the tangled paths with a naturalist is both an astonishment and a revelation. A few years ago popular works on nature-study were things unknown. The only means of information for the inquiring amateur were purely technical works such as Grey's "Botany," to a beginner as uninteresting and as difficult as a work on differential calculus. Now there are whole libraries of books which are both interesting, popular and true to the scientific facts. There are fifty-seven species of ferns described and illustrated in one book, and of these the writer collected twenty-two during a three-weeks' stay in the Adirondacks. Some were found half way up Catamount, some on the slopes of Whiteface, one or two on the face of cliffs overlooking Wilmington. The memories of that summer are delightful, and as we look over the specimens we gathered in those wanderings, my wife and I, the scenes come back to us and we live those summer days again.

No one need ever spend a dull day in the country who provides himself with these works. They are the companions of my outings every year. Do you say such amusements are unworthy of the man of affairs—they are of too trivial a nature? Must you then display your importance and wealth in a gorgeously appointed steam yacht, or career about the country in a high-powered automobile to the consternation of all decent and well-intentioned horses and the disgust of their owners? Is the study of nature, the search for the beautiful things of the world, unworthy a great man's leisure?

Since the advent of the explosion engine many little launches dot the smaller lakes. For their owners, a trip up the Erie Canal through the beautiful Mohawk Valley is to be commended. Supplies are to be had at every lock, and the scenery as far as the fifty-five-mile level is lovely. The Northern Canal, which runs from Albany to Whitehall, is a lovely stretch of water as it winds its tortuous way northward through many an historic town to Lake Champlain. Its winding course is said to have been due to the opinion of the engineers who constructed it that the curves would prevent the wash of the banks by passing boats. I have a photograph which shows seven curves in sight. Lake Champlain is an ideal cruising-ground for small launches. The water on the New York side of the lake is very deep. On the Vermont side there are rocky boulders and shallows which it is necessary to know. The Government, however, furnishes charts at a nominal expense. Plans of the canals may be had at Albany showing the location of the locks, basins where boats may tie up overnight, and the towns.

President Roosevelt is the type of the restless energy of the nation. He has taught us many lessons of moment, but none of more importance to the man of affairs whose mind is overburdened with responsibility than that the proper way to secure rest of mind and repair of body is in the solitudes of nature, and not among the mazes of a crowd.

TO THE ARCTIC IN AN AUTOMOBILE

THIS SUMMER'S OUTING PLANNED BY THE MAN WHO LAST YEAR COVERED 5,000 MILES THROUGH SEVEN COUNTRIES OF EUROPE IN 38 DAYS—HOW HE ARRANGES HIS TOURS

BY

RALPH D. PAINE

IT has become usual to expect a considerable coloring of disaster in the recorded history of long-distance automobile touring as a pastime. In this country the uncertainties and annoyances which must be reckoned with as probabilities are not so much the fault of the man or the machine as of the indifferent or wholly impossible highways. Yet it was this rough schooling that enabled an American to be the most successful tourist abroad, and to drive his car through continental Europe with a record of more than 5,000 miles of consecutive travel in thirty-eight days and in seven countries. Mr. Charles J. Glidden accomplished this unprecedented tour with so much ease, comfort and enjoyment that he has planned for the coming summer an excursion "farthest north," with which objective in view he will attempt to cross the Arctic Circle in Norway. This tour of 4,500 miles will be another notable event in automobile records.

It was not so much the mileage rolled up in Europe last summer that made the tour of Mr. Glidden uncommonly interesting, as the system by which the long and complicated excursion was planned and accomplished. It was a triumph of careful preparation, intelligently executed, which makes it seem as assured as if outlined in a railway timetable that Mr. Glidden will succeed in driving his automobile "farthest north" this year. He has no intention of posing as an Arctic explorer, nor is there a shadow of notoriety-seeking in his programme.

Mr. Glidden has, luckily, both wealth and leisure, with a singularly fortunate ability for making both effective in the field of his specialized recreation. His tours are planned with the forethought, attention to detail and accuracy of information to be expected in the office of the general manager of a railway system. In his apartments at the Hotel Touraine in Boston are collected and filed for reference hundreds of maps and charts, and stacks of reports, guide-books and other memoranda, sufficient to furnish a library and bureau of information combined. The preparation for such a trip as that of last year, for example, required a great amount of work through the preceding winter, both by Mr. Glidden and by his secretary. An hour's talk with this systematic tourist shows why this must be so. In the continental tour of 5,125 miles, the sixteen-horse-power automobile passed through 1,700 towns and cities in England, Austria, France, Germany, Switzerland, Italy and Spain at an average rate of 135 miles a day. Mr. Glidden was informed in advance regarding the roads, supplies and accommodations over every mile of this route.

Mr. Glidden is of an optimistic temperament and trifles cannot vex him.

"There are no difficulties in touring abroad," he said recently. "Last year my party was not once delayed by a mechanical derangement or breakdown of any kind. Tires had to be repaired and replaced, but this is as much a part of touring as having a horse reshod during a long ride. We caused no runaways, we killed no peasants, nor were we once molested nor interfered with. There were no complications with customs officials, no hardships in obtaining quarters. Our baggage was sent ahead along the route, and was neither lost nor delayed. I had no difficulty in getting gasoline whenever it was needed. It was as smooth and easy as traveling by rail and far more enjoyable. With me were Mr. Dudley Waters and Mrs. Waters, of Grand Rapids, Mrs. Glidden and my chauffeur. I drove the car; the chauffeur acted as machinist and all-round handy man. I cannot recall one exciting mishap. The route had been mapped out with a good deal

of care. For example, I carried with me and used more than sixty maps and charts. These had been sifted from among several hundred examined before starting."

This tour, which sounds so obviously simple as commented upon by Mr. Glidden, required a preparation as comprehensive as its geographical scope. It was notable in that nothing happened. Starting from London and crossing the Channel at Dieppe, the motor car swept through the champagne country of France, lingered around the battlefields of Metz and Coblenz, toured the valleys of the Moselle and Rhine, and climbed through 150 miles of the Black Forest. The machine ran smoothly over the famous Alberg Pass into Switzerland, to Italy over the Brenner Pass, thence to Verona and Venice, skirting the shores of the Italian lakes, and returning to Switzerland over the Saint Gothard Pass. The car ran eleven miles up this ascent, through a heavy snowstorm and a drop in temperature of fifty degrees, in a little more than an hour. After touring 1,000 miles in Switzerland the party turned south again, and from Monte Carlo skirted the southern boundary of France along the Pyrenees into Spain. From San Sebastian the route led to Bordeaux, Touraine, the château district of France, to Trouville, thence to Paris, Boulogne and back to London.

With so impressive a record of success in every way, Mr. Glidden began to outline another record-breaking tour, and also ordered a new and slightly larger car, in which a steamer trunk could be carried, with seats for four tourists and the chauffeur. This car will be used for the "farthest north" pilgrimage.

Perfecting the plans for this tour has been a more difficult task than to prepare the route across the continent of Europe, but Mr. Glidden marshaled his system, refilled his pigeon-holes, and took success for granted. Sweden, Denmark and Norway have not been explored and chronicled by automobilists, and for the far northern regions no road maps were to be obtained. Mr. Glidden opened an extensive correspondence with American consuls, government departments, foreign tourist clubs and other sources, and the information rapidly accumulated, to be sifted and compiled for service. Highways, hotels, towns and the most attractive scenic routes are already so well dovetailed in the scheme of travel that Mr. Glidden expects to make easy and comfortable progress up into the land of the midnight sun.

"I have been able to make sure of good roads only as far north as sixty-four degrees of latitude," said Mr. Glidden, "but I shall, of course, push on as far as automobile travel is found possible, and I expect, with good fortune, to cross the Arctic Circle. I shall leave this country in June, tour through England, witness the Gordon Bennett cup race in Ireland, drive through that country and Scotland, and go by steamer to Christiania in Norway. The route north will then lead to Bergen, and from that city to Trondhjem, which is sixty-four degrees north. Beyond that point there is a possible run of 125 miles to carry my car inside the Arctic Circle. The Norwegian Government is opening new roads in that direction, and I can rest in the comfortable assurance that wherever my way is finally blocked my car will have made the longest continuous run in high latitudes that has been attempted. I will pass through Denmark on the return trip, then by steamer to Kiel, and through Holland and Germany. When England is reached the tour will have covered 4,500 miles in forty-five days.

"The pleasures of automobile touring are of the keenest sort when proper arrangements are made in advance. For my part, I fail to understand why so many automobilists consider long-distance touring a trap for the unwary. Conducted with system and ordinary care and intelligence, what other means of travel offers so infinite a variety of interesting experiences? In what other fashion could one pass in a few days through 1,700 cities, towns and hamlets, receiving innumerable impressions of the very heart of these countries? Travel becomes new and vivid with every day in such touring. But alas! I have no mishaps to describe, nor can I give a single thrill to the story. It was disgustingly successful, and so I hope will be the next tour, 'farthest north.'

"There will be no long-distance touring in America," said Mr. Glidden, "until we have roads worthy of the name. There are good highways, without interruption, from Madrid, in latitude forty, to latitude sixty-four north in Norway, a distance of 2,600 miles. In this country one cannot find a consecutive stretch of first-class highway more than seventy miles in length."

HUNTING WITH A CAMERA

ITS SUBSTITUTION FOR THE GUN—THE FASCINATION OF PHOTOGRAPHING NATURE FOR SCIENTIFIC STUDY AND FOR SPORT—THE EQUIPMENT AND INCIDENTAL ADVENTURES OF MANY OUTINGS

BY

FRANK M. CHAPMAN

A WELL-KNOWN sportsman whose success in pursuit of the game of many lands has won him renown, said to me recently: "I want your advice in purchasing a camera outfit for photographing wild animals. I've killed every game animal in this country," he added, "and my house is filled with heads and rugs, but I believe I would give the best one in the lot to have made a magnificent picture I recently saw of elk."

This man is not an exception. He is one among the many converts to the ranks of camera hunters, and a study of his evolution as a sportsman presents some extremely interesting problems.

Like many another man, he was a "born hunter," and circumstances permitted him to develop his innate love of the chase. This development, we should find, was along certain conventional lines. He simply adopted an existing code of sport. Some animals were considered game, and as such were worthy the sportsman's attention, while others were esteemed beneath his notice. The desirability of any animal was determined by its size, its wariness, its courage and powers of defense or offense, its rarity, its edibility, and individually its horns, fur and other physical conditions.

Primarily, then, this man hunted because he had inherited a love for the chase; but custom determined for him what, as a sportsman, he should hunt; and his ambition to kill a given animal was not inspired by murderous motives, but by the place of that animal in the sportsman's scale.

It follows, then, that any change in the current valuation of a game animal by sportsmen will be attended by a corresponding change in the degree of pleasure with which that animal is captured.

Among sportsmen a photograph of a wild animal in its haunts is beginning to be more highly prized than the animal itself. When this sentiment becomes universal the camera will have replaced the rifle.

Camera-hunting more than fulfils all the essential requirements of true sport. It is infinitely more difficult than hunting with the gun, and makes far greater demands on the patience, perseverance, strength and ingenuity of the hunter. The apparatus is interesting in its manipulation; its use implies no restrictions of place or season, and once its results become as desirable as those to be obtained with rod or gun, the latter will be used by sportsmen only to supply the larder.

This doubtless sounds Utopian, but it is not. Can all the mounted deer and deer's heads in existence compare for a moment in beauty with Mr. Shiras's photographs of these creatures in their haunts? Lives there a sportsman who would not gladly exchange the glass-eyed effigy which for years has been staring from the wall of his den for one of these living records from the very heart of Nature?

As for the pleasure of making them, try it! At once you will learn the advantage of camera-hunting, for you may apparently break the laws of the State by jacking deer, and in the close season at that.

Rig your canoe with a jack-light and in front of it arrange a stand on which to place one or two cameras. Use a lens with much depth of focus and set it for a distance of about twenty feet. Your paddler takes his place astern, while you, with flashlight pistol loaded, seat yourself immediately behind the jack.

Can there be a more delightful way to enter a forest than over its water-paths in a canoe? No cracking twig or rustling leaf betrays one's presence. The guide directs the way, leaving you wholly free to look and listen. How the rays from the jack-light glisten on the wet leaves and penetrate the blackness of the forest! How startling the slightest sound!

A FLASHLIGHT PHOTOGRAPH OF A FAWN FEEDING

Copyright, 1898, by George Shiras

The bark of a fox might be a lion's roar; an owl's hoot is blood-curdling. I recall a night on an Adirondack stream, when we were rigid with the excitement of expectancy; a swimming muskrat struck the bow of our canoe and, jumping, splashed the water like an exploding mine. Only the guide's skill with the paddle saved us from a bath!

Assuredly jacking is a fascinating method of

Photographed by Frank M. Chapman

A TERN IN MIDAIR

hunting, but with a rifle it is as surely a murderous one. Substitute the camera, however, and we have one of the most enjoyable forms of sport. Mr. Shiras has been following it for the past sixteen years and his enthusiasm increases with his successes.

The eyes which reflect the light of the "jack" may not always be those of a deer; Mr. Shiras secured a wonderful picture of a wildcat this past season. When, on reaching an estimated distance of about twenty feet, the flashlight was exploded, a creature was seen to leap five feet or more into the air, but the developed plate shows only a gigantic pussy seated on her haunches watching with calm curiosity the glaring eye out over the water.

Mr. Shiras also hunts with what, in effect, are spring-gun cameras, so arranging a charge of magnesium powder that it may be ignited by an animal which encounters a trip-line set on its runway.

On the plains, and in mountainous regions above timber-line, the telephoto lens or attachment can be used to advantage. The Jena-Zeiss telephoto appears to be the most satisfactory one on the market, but it can be used successfully only by exercising the greatest care. In telephotography a focusing glass is essential. It not only adds to the sharpness of definition, but permits one to place one's head nearer the ground glass and thereby increases one's reach; the last a matter of no small importance when the bellows of one's camera may be extended for a length of thirty inches.

Too great length of bellows, however, is undesirable. It increases the size of the image but also the possibilities of vibration, and vibration is the cause of nine out of every ten failures with the telephoto. Be content with a smaller magnification and leave enough front-board before the lens-board to serve as a support for a brace on which to rest the telephoto tube.

Under favorable conditions one can make sufficiently rapid exposures with a telephoto to employ it in a hand camera; but prolonged experience convinces me that far better results may be obtained with a fourteen- to eighteen-inch lens which admits of exposures of a two-hundredth part of a second or less and can be readily focused. For hand-work a camera of the graflex type is most desirable.

It is not only the big-game hunter who turns to the camera as an adjunct to or substitute for the rifle. His brother of the shotgun is also finding that the lens brings equally definite and far less perishable rewards of the hunt, while the number of species of birds which may be pursued with keen pleasure and excitement is greatly increased.

Nor will the wielder of the rod be denied

A FLASHLIGHT PHOTOGRAPH OF A DOE WITH TWO FAWNS

Copyright, 1898, by George Shiras

Photographed by Frank M. Chapman

MT. SIR DONALD GLACIER, BRITISH COLUMBIA

Photographed by Frank M. Chapman

MT. SIR DONALD FROM SAME POINT OF VIEW AS IN THE OTHER PICTURE, TAKEN WITH A TELEPHOTO LENS

this newer, higher form of sport. Leaping salmon and tarpon afford rare marks for the camera, and the pictures thus far obtained in this direction merely hint at the possibilities of this kind of camera-hunting.

But whether one be drawn to plain or mountain peak, to marsh or stubble, or broad bays or along "little rivers," one will find the camera renders a unique and inestimable service in preserving for us graphic records or scenes with which we may ever associate delightful memories of the incidents of the chase, the blind, the boat or camp-fire.

The camera is so much a necessity to the naturalist and botanist that no course in biology is complete which does not include instruction in photography.

Pressed flowers give so inadequate a conception of their appearance in life that to the botanist the camera is especially serviceable. It is a charming side of his study which leads him to photograph blooming plants where they grow and individual blossoms where he best can control the light. While we will not deny him the scientific importance of such photographs, it is their beauty which most often appeals, and their general educational value is far greater than that of the best-preserved herbarium.

In no department of outdoor nature-work, however, has the camera proven more useful than in the study of birds; and the variety and number of pictures of bird-life which already exist are a tribute to the attractions of bird photography, as well as to the activities of bird photographers.

These pictures of a bird, its haunts, nest, eggs or young, convey an impression of reality so much more convincing than that produced by description alone that long-known facts possess, when pictured, all the charm of novelty. How few of nature lovers ever have had or ever will have the pleasure of seeing a woodcock on its nest, giving, through its apparent insensibility to one's presence, a remarkable exhibition of its faith in the protective value of its coloration. But assuredly the next best things to the woodcock itself are Dugmore's beautiful photographs of a sitting bird of this species. A woodcock of which I knew actually permitted itself to be stroked on the nest before giving evidence of life; but when, a few days later, after an unseasonable April snowstorm, which whitened the leaves, the bird became a conspicuous dark object against a snowy background, it left the nest as soon as one appeared upon the horizon.

If the camera so successfully introduces us to nature's secrets at our threshold, consider its power in portraying the bird-life of remote regions whose very inaccessibility has made them favored haunts of the fowl of the air. Here the naturalist and sportsman meet on common ground, but the former is inspired by the enthusiasm of the scientist as well as by the zeal of the hunter, and the results secured are proportionately more prized. What an unending source of satisfaction is a picture of the gannet rookery on Bonaventure Island off Gaspè Peninsula, which it was my fortune and privilege to make some years ago.

These noble birds are now so near the verge of extinction in America that they are known to nest in only two rocky islets in the Gulf of St. Lawrence. Such a picture has both historic and scientific value as a truthful, accurate record of conditions which shortly may cease to exist.

With what satisfaction I recall my visit to Bird Rock, that famous resort for birds just within the passage between Newfoundland and Cape Breton. Audubon, in a wave-tossed schooner, lay off the rock for hours in the vain hope that he might effect a landing; and one could therefore appreciate weather which permitted one safely to run a boat onto the hand's breadth of beach beneath the bird-inhabited walls towering more than a hundred feet above. The top was reached by means of a crate, a rake and a windlass—apparatus subsequently found most useful in reaching points of vantage whence to photograph birds nesting on the face of the cliff.

I have not always been so fortunate, however, and a trip to study a small colony of white pelicans was attended by far from satisfactory results. Size and color combine to make these birds exceedingly conspicuous, and an opportunity to test a rifle upon them is rarely lost. Where man and gun are found, therefore, the birds nest in only the most isolated places. This particular group of about forty birds had selected an islet or, locally, a "reef," so far out in Shoal Lake, Manitoba, that it was wholly invisible from the shore. But reach them we must, and the trip of four or five miles was made in a twelve-foot punt, the bottom of which could

be wisely tread on only with great caution. The reef was reached and the splendid white birds were found sitting on their nests of sand and gravel. At our approach they arose and, with characteristic dignity of flight, disappeared far down the lake. In awaiting their return, concealed in a small patch of reeds, a sudden change occurred in the weather and soon we found ourselves prisoners in pelican-land. Fortunately we had a tent-fly, which with a push-pole, a pair of crossed oars and a camera tripod would have made a passable shelter under ordinary circumstances. But in the end the circumstances proved to be extraordinary. The storm became one to date from. Not only were we forced to ballast our tent with boulders, but, sitting in a pelican's nest, the only available, unflooded position, I passed a good portion of the night with my hands clasped around the ridgepole of our improvised shelter to prevent the whole affair from blowing into the lake. Eventually we reached the mainland, none the worse for the experience, but the pelicans, alas! refused to share their home with us, and in their absence their eggs were devoured by the western gulls that nested near them.

The most peculiar bird colony I have ever visited was that of flamingoes in an uninhabited and, indeed, almost unknown part of the Bahamas. Within a space approximately one hundred yards long by thirty yards wide a partial count and careful estimate showed two thousand of the little adobe, concave-top cones which these singular birds build as nests. Unfortunately it was not occupied, but the fulfilment of my cherished plan will take me back to this part of the earth some July when the domestic affairs of flamingoes have reached their most interesting stage.

And herein lies the witchery of bird photography. Its attractions are endless, its possibilities limitless. Fresh fields continually open before one. Each achievement leads the way to a hundred more, all so alluring that one's chief difficulty is in deciding which course may be most profitably followed.

RAILROAD MILEAGE AND WEALTH

THE DIRECT RELATION THEY BEAR TO ONE ANOTHER — CHEAP TRANSPORTATION AND HIGH WAGES — THE GREAT LAND GRANTS MADE BY THE UNITED STATES GOVERNMENT TO RAILROADS, AND THE RETURNS TO THE GOVERNMENT — TRANSPORTATION THE CENTRAL SECRET OF ALL MATERIAL ADVANCEMENT

BY

GUY MORRISON WALKER

At the mouth of a mine in Arizona 200,000 tons of precious ore are stacked awaiting the building of a railroad to haul it to a smelter, for, precious as it is, its value would be consumed in transportation charges if an attempt were made to move that ore by wagon or pack-animals at a cost of twenty-five cents per ton-mile, while the profit on it will be immense when it can be taken out by rail at a cost of one-half cent per ton-mile. In British Columbia many fine ore bodies have been staked out and then abandoned because they were so far removed from any railroad that with the utter lack of transportation it was a waste of time and money to take out the ore. In Mississippi, within the last ten years, thousands of acres of the best timber that ever grew have been sold for the mere pittance of twenty-five cents per acre, because, owing to the lack of transportation, there was no way to get the timber out, and if cut it merely rotted where it lay. In one part of that State, within three years after a large block of land was so sold, a railroad was built through the country, and thereafter not an acre of that land could be bought for less than $5, while most of it was sold to new settlers at from $7.50 to $8 per acre.

In order to be of value, lands must be accessible, and their products transferable to

market at a cost that shall not consume the value of the products in transportation.

A few years ago at a coal mine in Kansas you could buy all the coal that could be loaded on a wagon and hauled away for the sum of one dollar, because the consumption was limited to the farmers who lived within a radius of twenty miles and who could make the drive to the mines and back in a day. Within forty miles of this same mine farmers were burning corn for fuel because, in the absence of railroads, there was no market for it, and corn on the farm was cheaper for fue than coal at one dollar a load forty miles away. Later on, a short railroad from the lead mines made the location of this coal mine a great smelting centre, and the small farm which before could have been bought for two dollars per acre was valued thereafter at the sum of $1,000,000.

It was early recognized in the United States that agriculture could not flourish nor manufactures thrive in advance of transportation facilities. Long before the era of railroads the United States embarked upon the construction of inland canals on a scale that has never been equaled in the world, either before or since. In the great manufacturing States of New York, Pennsylvania and Ohio the Federal Government, the States and municipalities gave enormous sums aggregating more than $100,000,000 toward the construction of the canals, which remained for years the only means of transportation across the country; the Erie Canal alone, built from Albany to Buffalo in the State of New York, being completed in 1826 at a cost of $52,540,000. As a result of building these canals the population of the States through which they were built increased enormously at the expense of their neighbors, who were without these means of transportation.

The State of Ohio alone grew in population from 938,000 in 1830 to 1,980,000 in 1850, the increase being due not alone to the vast emigration that followed along and settled in the cities and towns made accessible by the canals, but large numbers of natives were drawn from the neighboring States by the prosperity which prevailed on account of the great growth in manufactures and industry.

In 1850, however, it began to be seen that railroads as a means of transportation were destined to supersede canals. At that time the whole railroad mileage of the United States was only 9,000 miles, not one mile of which extended beyond the crest of the Alleghany Mountains. It was at this time that the United States Government decided to lend its support to the most gigantic public enterprise that had ever been undertaken. Recognizing the fact that its great public domain, however valuable in its potentialities, was not only valueless but a burden so long as it remained inaccessible, the Government determined to make the construction of transportation facilities across and into it profitable to all who would undertake their construction. The Federal Government thereupon embarked upon a career of subsidizing railroads which was gigantic in the magnitude of the work promoted, wonderful in the comprehensiveness of its scheme of development, and justified by results so colossal and magnificent that the world, dazzled by their brilliancy, has failed to see their cause and failed to recognize the policy which, intelligently and persistently pursued, has made the United States the leader of the world in wealth and industry.

Since 1850 the Federal Government of the United States has granted subsidies to more than fifty different railroads extending west from the Mississippi River in a cash sum aggregating $65,000,000 and by land grants amounting to more than 200,000,000 acres, and in addition to this the Government sustained the credit of the roads subsidized by paying interest upon the bonds of these roads until they became self-sustaining, with an additional sum of approximately $35,000,000.

The magnitude of these subsidies granted by the United States Government can hardly be realized. The entire area west of the Mississippi River, including mountains and deserts, is but little more than 1,225,000,000 acres of land, yet out of this area the Federal Government granted to railroad companies as subsidies for the building of railroads more than 200,000,000 acres, or one-sixth of the entire public domain. This grant, however, included a much larger proportion of the arable part of the public domain, being about one-third thereof. At the time that this policy was inaugurated there was not a mile of railroad within 600 miles of the Mississippi River, and the whole population of the States and territories west of that river was only 1,481,000.

The following table explains the results:

Name of Railroad	Cash Subsidy	Land Grant Acres	Sold Settlers Acres	Repaid Government
Union Pacific	$ 33,536,512	19,400,000	14,287,517	$ 40,253,605
Southern Pacific	27,855,680	31,207,840	14,146,468	58,812,715
Missouri Pacific	1,600,000	7,217,477	4,603,901	
Chicago and Northwestern	1,628,320	7,702,821	7,544,300	2,123,000
Atchison, Topeka & Santa Fe		45,800,000	15,194,234	
Chicago, Burlington & Quincy		3,390,244	2,764,081	
Chicago, Milwaukee & St. Paul		3,479,023	1,427,335	
Chicago, Rock Island & Pacific		3,390,828	1,256,417	
Illinois Central		2,595,053	2,595,053	
Missouri, Kansas & Texas		1,520,000	705,561	
Northern Pacific		47,000,000	26,347,277	
St. Louis & San Francisco		1,860,586	1,283,167	
Texas Pacific		23,401,069	5,000,000	
Wisconsin Central		1,800,000	838,108	
	$ 64,620,512	199,773,941	97,993,419	$101,189,320
Interest	35,000,000			
	$ 99,620,512			

These figures show conclusively the aid extended by the United States Government to railroads west of the Mississippi.

It will be seen from the preceding table that the Government has been repaid by the railroads every dollar of the cash subsidies that it granted to them. The subsidized roads are to-day paying annually in taxes a sum that exceeds $15,000,000—a sum large enough to repay in four years the entire original cash subsidies granted by the Government.

But more interesting than this is the fact shown in the above table, that of the 200,000,000 acres granted to the railroads, the railroads have in turn sold to emigrants who have gone into this western country and settled along the lines of the roads 98,000,000 acres, or almost one-half the entire land grant made to the railroads themselves. This means that the railroads, in endeavoring to build up the territory tributary to them and so to create a paying traffic, have induced the location, in what was fifty years ago a wilderness, of more than 10,000,000 of people.

One of the most striking things discovered in connection with this investigation of Government subsidies granted to railroads has been, that while the subsidies granted have called for the construction of only about 25,000 miles of railroad, they have actually resulted in the construction of more than four times the mileage necessary to have been constructed to secure the subsidies. In other words, every mile that the railroads have been induced to build by subsidies has resulted already in the development of the territory and in a growth of population and traffic that has compelled the railroads to build three additional miles of track to take care of it.

While the United States Government granted in subsidies $100,000,000 in cash and 200,000,000 acres of land to induce the building of 25,000 miles of railroad west of the Mississippi, these subsidies have already resulted in such a development of that part of the United States that it today contains 98,000 miles of railroad, or one-half of the railroad mileage of the United States, and the population of this same region has increased from 1,481,000 in 1850 to more than 21,000,000 in 1902.

These results, however, have not been attained alone from the subsidies granted by the United States, for the many subsidies granted by States, counties, cities, towns and individuals to the various railroads have equaled if not exceeded those granted by the Federal Government itself.

The State of Missouri alone granted almost $25,000,000 in subsidies for the building of railroads within its borders. The magnificent system of railroads throughout the middle West, in Ohio, Indiana, Michigan, Wisconsin and Illinois, has been almost entirely due to the municipal and private subsidies granted to them to induce their construction.

The late John Sherman, Secretary of State under McKinley, and famous as the great Secretary of the Treasury, declared that the admirable railroads in Ohio have been built mainly by the proceeds of bonds based upon donations given as an inducement for their construction.

A careful investigation of the State, municipal and private grants and subsidies to railroads in the United States shows that the railroads of America have received from these sources cash and property worth at the time it was given more than $200,000,000, much of which, given in the shape of property, terminal and dock facilities, has increased in value to such an extent that it would be almost impossible to estimate the present value to the railroads of America of their holdings that were originally donated to them as subsidies. It is almost impossible to point to a single mile of the 202,000 miles of railroad in the United States that has not at some time or another been the recipient of some subsidy, or whose construction was not induced by some bounty either public or private. A careful investigation of the railroad mileage of the United States shows that the construction of 139,500 miles out of its 202,000 miles is directly traceable to the subsidies and land grants given to the railroad companies.

It is no time now to ask whether subsidies pay. Devoting herself to developing the means of transportation, the United States has pursued her way until she has reached a preëminence in this respect that is astounding. The following table shows the development of transportation facilities in the leading industrial countries of the world:

Country	Population	Miles of Road	Miles per Ten Thousand
Great Britain	41,454,578	21,835	5.27
France	38,641,000	26,234	6.78
Germany	50,343,000	21,302	5.57
Austria	47,102,000	22,545	4.78
Italy	32,449,000	9,772	3.01
Russia	128,932,000	28,589	2.21
United States	79,000,000	202,000	25.57

From this it will be seen that the average American is four times better served with transportation facilities than the average Frenchman, and five times better served than the average inhabitant of Great Britain or Germany, who are his chief industrial rivals. From this it is easy to see how much greater is the opportunity of the average American to market the products of his labor, and how much wider is the market which these products may reach; while his competitors, suffering from inadequate transportation facilities for their products, are handicapped by the high cost of reaching the world's markets.

This wonderful development of transportation, with the resultant ease and economy of reaching the world's markets, has not only promoted the great agricultural and grazing interests of the entire United States, making it possible for the stock raisers of Texas, Oklahoma and Colorado, and the farmers of Minnesota, Iowa and the Dakotas, to undersell the world with their products, but has also made the United States the manufacturer of the world.

The effect of this railroad development upon the manufactures of the United States is nowhere better shown than in the single State of Ohio, which in 1850, before the beginning of railroads, already had a population of 1,980,000. It appears by the census of the United States that the total value of manufactures in Ohio in 1850, with the above-stated population, was only $62,692,279. With the development of railroads the manufactures of the State grew rapidly in value, amounting to $121,000,000 in 1860; $269,000,000 in 1870; $348,000,000 in 1880; $500,000,000 in 1890; while in 1900, when the population had only grown to 4,157,545, the value of manufactures in the State had grown to $605,763,566, or in other words, by reason of the magnificent systems of railroads, built and developed by means of substantial subsidies, the percentage of increase in population in the State of Ohio from 1850 to 1900 amounted to but 110 per cent., while during this same period the growth of manufactures was shown by an increase in value of 900 per cent.

From this it is apparent that, of two equal populations one of which has better transportation facilities than the other, that population having the better transportation facilities will surpass the other population in commerce and wealth in a degree that bears a definite proportion to its excellence in transportation.

	Population	Miles of Road	Internal Commerce	Wealth
1850	23,191,876	9,021	$ 2,000,000,000	$ 7,135,780,000
1860	31,443,321	30,626	3,500,000,000	16,159,616,068
1870	38,558,371	52,922	6,250,000,000	30,068,518,507
1880	50,155,783	93,262	7,750,000,000	43,642,000,000
1890	62,622,250	166,703	12,000,000,000	65,037,091,197
1900	76,303,387	193,345	18,000,000,000	94,300,000,000
1902	79,000,000	201,839	20,000,000,000	100,000,000,000

That this growth in population and manufactures in the State of Ohio was not exceptional is shown by the preceding table taken from the official reports of the Treasury Department, which shows the miles of railroad, the population, wealth and internal commerce of the United States for each decade of the last fifty years and for 1902.

From this table it will be seen that in 1850, when the population of the United States was already more than 23,000,000, but the country was suffering from an utter lack of transportation facilities, having only 9,000 miles of railroad in the entire country, the national commerce of the United States amounted to only $2,000,000,000 per annum, while the total wealth of the country amounted to only a little more than $7,000,000,000. In the fifty-two years that have elapsed from that time down to the present, the railroad mileage of the United States under the inducement of magnificent subsidies, public and private, has grown from only 9,000 miles to almost 202,000 miles, or a growth of more than 2,000 per cent. During this same period the population increased from 23,000,000 to 79,000,000, or only about 230 per cent., while the internal commerce of the country grew from $2,000,000,000 to $20,000,000,000, an increase of 900 per cent., and its wealth increased from $7,000,000,000 to more than $100,000,000,000, or more than 1,400 per cent.

Since it is impossible for manufactures to thrive or agriculture to flourish in advance of transportation facilities, and since the railroads were built before the commerce and wealth appeared, it cannot be that it has been the growth of wealth and commerce that has induced the building of railroads in America but instead it is the development of transportation facilities and the building of railroads that have produced the magnificent growth of commerce and the enormous increase of wealth that have made the United States envied and feared by the world.

In another peculiar way the United States has benefited from the great development of its transportation facilities. The building of such an immense mileage of railroads resulted, in the days when traffic was small and before commerce grew to its present immense proportions, in a fierce competition for such traffic as there was; and in the efforts to secure this traffic the American railroads made rates so low that they have since been the wonder of traffic managers throughout the world, and American freight rates remain today less than one-half the average freight rates of any European country. This low freight charge for transporting manufactured products to market has given the American mechanic and laborer an immense advantage over the laborer of the world, and it is this low cost of reaching the world's markets that has enabled the American laborer to secure such high wages for his work.

The following table, giving the cost of transportation and the daily average wage for labor in the leading industrial countries of the world, shows to what extent the American laborer has profited by the development of transportation facilities in his country, and also in striking contrast it shows the extent to which the labor of other countries has been handicapped by the lack of that development in their countries.

Country	Cost of Transportation per ton-mile in cents	Wages per day
Italy	$.024	$.26
Austria	.0225	.50
Germany	.0150	.90
France	.0190	.80
England	.0260	1.04
United States	.0069	2.60

The advantage, then, which the 15,000,000 American laboring-men have secured by the transportation facilities of their country, enables them annually to secure for their labor the enormous sum of $6,000,000,000 more than any like number of laborers in any other country of the world.

The discussion of subsidies has ever been a plague to governments and a puzzle to theoretical economists, but what reply can theory make to the magnificent results that have actually been accomplished in the United States by granting the greatest subsidies that the world has ever seen?

The great railroad mileage resulting has opened up lands that would otherwise have remained unopened for decades, covered them with a great population that is still growing, added to the taxables of the country property now paying annually in taxes sums exceeding the original subsidies granted, and built up a manufacturing industry so great that even the tremendous increase in population has been unable to keep down wages, which in the United States have reached the highest standard of which there is any record.

THE CUP RACERS

THE "AMERICA'S" CUP RACES A PRACTICAL EXPERIMENT IN SCIENTIFIC NAVAL ARCHITECTURE—THE GREAT INFLUENCE OF THE FAST YACHT ON SHIP-BUILDING—HOW THE YANKEE FISHING-BOAT HAS OUTSTRIPPED ALL ITS RIVALS

BY

JOHN R. SPEARS

THOUGH classed in the popular view as sporting events, and nothing more, the international yacht races for the *America's* cup have had, from the first, a serious and important practical end in view. For the building of every international racer—a work that is carried out with an unstinted use of time and money—is a search for absolute knowledge. The work of the Smithsonian Institution, or that done under the Carnegie fund, is not more serious, and certainly it is not done more eagerly.

For, while the cup that cost less than $500 is the prize held up to view for each series of races, the real object which the naval architects have in mind when planning the racers is to discover what form of hull and combination of spars and canvas can be driven at the greatest speed through and over the water. The work done by D'Alembert, Colonel Mark Beaufoy and our own Franklin is now continued by the builders of the racers that meet off Sandy Hook to sail for the *America's* cup.

If we compare the racers built for the present year with those that sailed for the cup fifteen or twenty years ago we shall see that, while furnishing the public with the most healthful recreation known to the world, the men behind the international races have accomplished something worth while even from the point of view of the most practical captain of industry.

For instance, the *Galatea* came for the cup in 1886 with a loose-woven hempen mainsail that was secured to the boom at tack and clew—at each end only. The sail when spread to the breeze was as hollow as a soup-plate, and very nearly all the sailors of Europe believed that such a form was the best possible. *Shamrock III.* will come with a mainsail lashed to the boom at every foot of its length, with wooden battens in the leach to keep it flat, and yet it is built with a tiny hollow in the luff—a sail that will serve like a falcon's wing.

For, since the *Galatea* was beaten, loose-woven hempen bags have been dumped overboard by sailors on all kinds of wind-jammers, and flattened duck sails have been substituted in their stead.

Then the *Galatea's* mast was of a huge log of Oregon pine. The boom, the gaff and the topmast were also great logs. *Shamrock III.* has mainmast and topmast built in one piece, and the spar is a slender tube of steel that holds the topsail halyard block as high above the water as the royal yard of an old-time frigate. Her boom and gaff are also slender steel tubes. The enormous strains to which the spars of a yacht are subjected have proved conclusively that the steel tube is stronger and lighter than the pine log.

But it is in the hull that the most important and interesting changes have been made, and here, too, there are features that are yet on trial. In fact, as an experiment in the shapes of hulls the races of this year are to be of greater interest than any ever held.

In the races of the *Galatea* period the stem rose vertically out of the water, while the stern overhung the water by a few feet. A broadside view of either of them showed a lateral plane that looked like a sled-runner cut from a plank by a country boy. Seen from another point of view, the bow of the yacht was found to be a vertical wedge, thin and sharp, like the blade of a woodman's ax; and it was a question among builders whether the wedge should have lines like an ax or hollow lines like a razor. The stern below the water-line was also something of a vertical wedge, though a blunter one than the bow. In general dimensions the *Galatea* was 102 feet long over all, 87 feet on the water-line, 15 feet wide, perhaps 10 feet deep below decks, and her draught was 13 feet 6 inches.

Her successful opponent, the *Mayflower*, was 100 feet long over all, was 23 feet wide, and was perhaps 7 feet deep under the deck, and she drew 10 feet of water.

With these facts in mind we can see how far we have traveled in changing the shapes of boats of that class. For *Shamrock III.*, though but three feet longer on the water-line, is 140 feet long over all. The old boat had an overhang of 15 feet, all of which was aft, while the new boat has an overhang of 25 feet at each end. The new defender, when compared with the *Mayflower*, shows almost exactly the same changes in length.

Roughly speaking, each end of the old yachts was a wedge that rode the water with its edge perpendicular. The forward half of *Shamrock III.* is not unlike the half of a cone split lengthwise, while the stern half is drawn out into a long, thin, horizontal wedge—a wedge with its edge laid parallel with the water. At the stern the challenger is a scow. The *Reliance*, however, is a scow at both ends, in spite of the fact that her bow comes to a point above water. Each end presents a fine horizontal wedge to the water, and therefore in every sailing-line she is a scow. We used to stand in front of a yacht and marvel at the thinness of the vertical wedge. Now we stand off abeam and look with delight at the sweep of the fore-and-aft lines. One sees at a glance why the modern hull is more easily, and therefore more swiftly, driven through the water. The modern hull presents fine or acute angles to the water, where the old hull presented wide or obtuse angles.

Another advantage of the modern hull, with its overhangs, is that it has greater initial stability. Further still, as the hull heels, and is submerged, the water-line length is increased, and this serves to keep the yacht on a straight course—it prevents her making leeway. The value of these changes is now beyond dispute, and the improvements acquired must all be credited to the experiments in naval architecture, which we call the "Cup Races."

It will occur to the reader that these long overhangs must weigh many tons, and that the under-water part of the hull must be more bulky to float the overhangs out of water.

The fact is, the hull is more bulky with overhangs—it has greater displacement, that is—than it would have without them; but in the meantime the builders have learned to design web frames and truss-bracing, all most delicate in their dimensions, and yet of enormous strength. With webs of steel plates that are from a quarter to an eighth of an inch thick the wrenching strains of spars and canvas that rise two hundred feet in air are successfully resisted; and yet the weight of the hull is less than that of the *Galatea*.

In short, while learning to shape hulls that meet the least possible resistance in passing through the water, we have learned to construct a system of framing that gives the greatest strength with the least weight.

It is to be observed, too, that the positive knowledge that has been obtained through building these racers is of practical value outside of yacht construction. The fishermen of Marblehead, with whom a wind-driven hull of great speed is of the utmost importance, have studied the designs of the international racers with the keenest interest, and as a result of improvements thus made the modern fisherman of the Atlantic coast is the swiftest merchantman afloat. In fact, only the latest international racers can show a wake to the modern Yankee fisherman. In Great Britain, as in the United States, the most capable builders of fast yachts are the most capable builders of torpedo-boats.

However, there are features of the racer hull that, as said, are yet in dispute, and it is for this reason that the races of the present year are to be of unusual interest. The new defender has a hull that is broad and shallow, the new challenger one that is relatively narrow and deep. The underwater body of the *Reliance*, if seen from a station directly astern, looks like a slice from the bottom of a very flat turnip, the tap root of which, however, represents the fin-keel rather poorly. The underwater body of the *Shamrock III.* is decidedly V-shaped when seen from the same point of view. In technical language, the *Reliance* has but little dead rise, the *Shamrock III.* has much. The 'tween-decks space of the *Reliance* is said to be so low that a man cannot stand erect in it. The same space in *Shamrock III.* is deep enough to give ample room for all purposes wanted in a cruiser.

Ship hulls are like pyramids—the broader the base the harder it is to tip them over. The wider the hull the more sail it can carry, but a limit must be reached when widening the model, because a time will come when the increase of sail which the widened hull will carry is unable to give an increase of speed.

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A TRIAL RACE BETWEEN THE CONSTITUTION AND THE COLUMBIA

Running before the wind with all possible sail set

Meantime a loaded hull carries more sail than an empty one; the more lead in the keel the more sail may be spread above the deck—and within limits, added sail means added speed. By increasing the underwater bulk of the racer a huge load of lead can be carried in the keel without passing the water-line limit of ninety feet, and thus a vast spread of canvas can be stretched above the deck. But as the underwater body grows more bulky a time comes when added sail gives no increase of speed.

From time out of mind the American builder's ideal has been a wide hull with a moderate cargo of lead—that is, a moderate displacement—while the British have favored the deep hull with large displacement. The racers of this year are built more closely to those ideals than any pair of hulls ever seen in a race. It will be asserted, very likely, as heretofore, that the contest off Sandy Hook is to be a trial of speed between two mere racing machines, but the truth is that we are to have not only a stirring event in the most healthful sport known to the world, but we are to try a practical experiment, at an expense of more than half a million dollars, to learn whether the wide and shallow model is better than the deep and narrow one. In the history of the world there is no account of such a splendid combination of practical work and good play as is here afforded.

Photographed by Agnew & Son

THE NEW CUP CHALLENGER, SHAMROCK III

FISHING FROM FISH-POT, HOT SPRING, YELLOWSTONE LAKE

Photographed by the Detroit Photographic Company

ON HORSEBACK THROUGH THE YELLOWSTONE

THE BEST WAY TO SEE THE WONDERS OF THE NATIONAL PARK—THE GRAND CAÑON LIKE A CANTO OF THE "INFERNO"—WAGON TRAINS OF VISITORS FROM NEIGHBORING STATES—YANCEY AND LARRY MATTHEWS — THE SNOW-SPLASHED TETONS

BY

HENRY D. SEDGWICK, JR.

WHAT ONE CATCHES AT JACKSON LAKE

IF one is an untraveled Easterner bound for the Yellowstone Park, the journey over the Northern Pacific Railroad makes a most interesting beginning to his trip. At intervals through North Dakota and Montana little towns stand along the railroad like companies of Falstaff's soldiers. Each town, drawn up parallel with the tracks, toes the line of its single street, its saloons, hotels, dance-halls massed in the centre, its straggling houses spreading to right and left, and the array terminating at each end in a few shacks and corrals.

These towns vary in size from Bismarck, the capital of North Dakota, which extends "many a rood," to villages that are to be measured by the yardstick. The progress of one of these was described to me by a young woman: "It's growin' somethin' awful; there's three dance-halls, two saloons, and two new houses, one frame, the other rock, all in two years." There are other towns

FOLD-OUT
HERE

THE CAÑON OF THE YELLOWSTONE FROM INSPIRATION POINT

Photographed by the Detroit Photographic Company

WATCHING THE BEARS EAT IN YELLOWSTONE PARK

Photographed by Beard

Photographed by the Detroit Photographic Company

"OLD FAITHFUL" GEYSER IN ERUPTION

smaller still; a large wooden sign, with a name in great letters, prognostication of future glory, alone breaks the long isolation of the prairie.

When the park itself is reached, the usual method is for the traveler to mount the stage-coach, squeeze in among men in yellow dusters and women in gray dusters and red Shaker bonnets, and drive along the regular park road in a chaos of alkali dust from geyser to cañon, from cañon to waterfall, until the fifth day brings him back to his starting point a wiser and a dustier man. Our plan was different; we got saddle horses, a guide and a packhorse and rode eastward at once, leaving the regular route at the door of the Mammoth Hot Springs Hotel. Our road crossed the Gardiner River, wound around a lofty bluff, Mount Everts, and then ascended some upland moors, and at the end of twenty miles took us to Yancey's "hotel." Yancey is an old frontiersman stranded in the park by the flood-tide of civilization, who recounts to his guests tales of the '40s. The old gentleman chafes at these uneventful days, and deems Central Africa the only place left for free men.

At Yancey's, Mrs. Molloy serves most generous meals, everything spread upon the table at once, so that a single glance satisfies each hungry guest that there is plenty for all. Near Yancey's are some petrified trees, which, according to the geologists, are veterans of an antique vegetation that came down from the North and subsequently perished

under glaciers and left only a few lingering trees turned to stone. The solid trunks stand like broken columns, indifferent to time.

From Yancey's we rode along the high bluff of a cañon at the bottom of which the Yellowstone River flows. We followed a trail which the United States engineers are rapidly turning into a well-made road; it leaves the river and, gradually ascending, winds southward over Mount Washburn. The day was variable, and we had the double pleasure of shifting clouds and changing scenery as we rode up the mountain through

YELLOWSTONE LAKE WITH MOUNT SHERIDAN IN THE DISTANCE

fir and spruce and over upland moors, past solitary deer and troops of antelope, up beyond patches of snow to the bare top of the mountain 10,000 feet above sea level. From the top we saw Yellowstone Lake to the south, and beyond it the jagged peaks of the Teton Range, and all around, except for a sweep of woodland on the horizon to the southwest, a circle of mountain peaks. The flowers—it was near the end of August—were very thick, little white blossoms, and great masses of purple flowers that looked like wild hyacinth; the meadows below were blue with gentian. The slope down was so steep and stony that we dismounted and led our horses into the woods below.

A delightful trail through these woods brought us to the Grand Cañon, where, at one of the park hotels, the day was crowned with a hot bath, which, after nearly nine hours in the saddle, comforts and almost intoxicates the jaded horseman.

The Grand Cañon is beautiful, and yet has something terrible in its aspect as you look timidly over the brink into the chasm below. It is like a canto of the "Inferno." There, before you, is the great, yawning, dolorous abyss, pale-yellow splashed with white at the top, deepening into saffron as it descends, and then into tawny, murky shades, and ending in great boulders of blood-red rock, with the blue-green river foaming at the foot. Up from the bottom seem to come "sighs, moans and shrieks." In fact, the park is a kind of gloss upon the Divine Comedy, for the steaming pits of the geyser basins are so many patches of hellish ground, and there are also spots fair as the terrestrial paradise. The Grand Cañon itself, in its way, is the most beautiful sight in the park; in the early morning the sun touches its brim, and then gradually flashes and glitters

Photographed by the Detroit Photographic Company

THE LOWER FALLS OF THE YELLOWSTONE RIVER SEEN FROM ARTIST'S POINT

down its side from rock to boulder, from boulder to crag, then down to the pink sand and many-colored pebbles and the blue-green water, till the great cleft shines like the nave of Solomon's temple.

From the Grand Cañon we rode southward on the park road, taking the course opposite to that of the park coaches which we met, lifting their pillars of dust toward heaven. The road follows the Yellowstone River, then, turning to the right, forsakes it for a time in order that the traveler may see some steaming pits, and then again joins it. Here under a clump of trees by the river bank I dismounted for lunch, my companions having lingered, loath to leave the Grand Cañon. A blue-gray heron flew slowly by, and, down the river, its white wings bellied out to the breeze, sailed a great pelican, heedless of the hawks and ospreys that clamored above.

It is less than twenty miles from the Grand Cañon to the hotel on the shore of the lake; so I rode along slowly, stopping to pass the time of day with the wagons I met. One of the pleasures of the park is the social experience to be had by the way. Sometimes there are tourists, father, mother and children, from a ranch in Idaho, who have driven a hundred miles and more to see the wonderful sights of the park. *Paterfamilias*, if he be a cattleman, will discourse upon sheep as a national curse, for where sheep graze cattle cannot or will not stay; or, if he be a shepherd, he will talk upon the arrogance and shortcomings of the cattlemen. Very kind were these men to their wives and children, helping them to points of vantage for a view. Inside the wagon were cooking utensils, stove, bedding, and, if the occupants happened to be bride and groom, a table and chairs, either a mark of the groom's gallantry or furniture for a more permanent lodging.

Sometimes a number of these wagons formed a train, with men and women on horseback—all astride, their faces bronzed and ruddy from the sun and exercise. The men were inclined to complain of the over-crowding of Montana, chafing at that Malthusian over-population of one man to twenty square miles, which was responsible for fences and landmarks, and made it necessary to drive cattle seven miles before they might lawfully eat grass beneath their feet.

From the Lake Hotel the park road runs southward to the west arm of the lake, known as the Thumb, where we spent the night at Wylie's Camp; we occupied three compartments in a tent, much too tired to quarrel with the aspect of the blankets, and in the morning, after a breakfast on the invariable ham, cut into octagons and other many-sided shapes, we left the regular park route and followed an excellent road southward to Lewis Lake. Thence we rode along the lovely banks of the Lewis River till we reached Snake River, which flows through Idaho and joins the Columbia; we had crossed the Continental Divide.

We kept on along Snake River below the southern boundary of the park, into the Forest Reserve, and invited ourselves to lodge at the soldiers' post, called, somewhat magniloquently, for the little house lodged a military force of two men, Snake River Station. A gentleman in the service of the Government as scout, an old resident of the park, bade the other half of the garrison spread before us all that the post afforded: bacon, rice and coffee. We were able to eke out the Government supplies with bread, butter and potted ham. The junior half of the garrison cooked for us and laid our blankets gratis, and received the real burden of our company with unaffected cordiality.

From the soldiers' post we rode south to Jackson's Lake, which lies at the foot of the Teton Mountains. The descriptions of these rocky, snow-splashed peaks, rising 7,500 feet up from the lake, together with Mr. Wister's novel, "The Virginian," had made us eager to behold this place, the ancient refuge of rustlers, the Sherwood Forest of America. At Jackson's Lake the settlement consists of two houses—one, hotel, store and post-office; the other, hotel, store and saloon. We chose that with the postal appendage. Our host, Mr. Charles J. Allen, an emigrant from Jackson's Hole, which lay a few miles to the south, his wife, their maid-servant, a most vivid likeness of the "tough girl" in Harrigan's play, "The Four Hundred," and a hired man—in winter, trapper; in summer, farm-hand, blacksmith, guide—were kind and hospitable. The rooms were fresh as mountain air, clean pine boards and new-washed sheets could make them, while the table rivaled that at Yancey's.

We were able to spend one glorious day of leisure trolling for trout in Jackson's Lake. The trapper rowed us across the lake, ten

good miles, to the foot of Mount Moran, which rose sheer and majestic directly from the shore. To the south shot up the Giant Teton, lifting its pinnacled peaks like the turrets of a cathedral; and the whole Teton Range stretched north and south as if to make a wall between two quarrelsome States. Our envy was aroused by the trapper's shack, which he occupies in winter while setting or inspecting his traps. Sometimes he lives there alone. Sometimes a friend, man or dog, is his companion; his butcher's shop is a frozen elk hanging by its heels at his door; his fishmonger's, a hole in the ice; his greengrocer, a pile of tin cans. "Thrice and four times happy!" to be able to live there beside the lake under the snow-covered mountains, instead of in a marble shack on the tenth floor of Mount Equitable or some other of the Broadway Tetons, where rustlers have not yet been wholly converted into honest settlers.

From Jackson's Lake we retraced our steps to the soldiers' camp at Snake River; thence we rode forty-two miles, skirting the eastern shore of Shoshone Lake over a trail which seemed to make continual effort to discover how close to the perpendicular it could tempt our horses. On the steepest ascent our pack-horse grasped his opportunity, and dashed off into the woods. All the horses followed, but after a moment or two of lubberly consternation we succeeded in tumbling off and led our horses slowly and cautiously back to the trail. We reached the Upper Basin in time to see the frequent geyser, "Old Faithful," shoot its steam and water toward the stars, and we received a sort of Charles O'Malley welcome from Mr. Larry Matthews, the *chargé d'affaires* of the hotel. I shall never forget his approach to a line of weary, dusty, elderly ladies in Shaker bonnets and linen cloaks, just alighted from a fifty-mile ride in an alkali simoon, as he grasped one by one their reluctant hands: "Shake, ladies, shake!"

The geysers are so many boiling and spouting holes set in a blasted heath. I was thankful to leave their abominable desolation and ride northward through delightful woods, along sparkling streams, and under somber cliffs that frowned resentment at being put into a park. The last great sight is the Golden Gate; the great cliffs catch the sunshine on their golden flanks and on either side wall in the road which twists like a passageway in a green castle.

The trip from the time we left the Mammoth Hot Springs Hotel to that of our return lasted eleven days, and we felt that we had taken the proper method to enjoy the park.

THE COMFORTS OF RAILROAD TRAVEL

A MODERN TRAIN AS LUXURIOUS AS A PRIVATE YACHT—THE GREAT IMPROVEMENTS IN A SINGLE DECADE—SPECIAL CARS FURNISHED AS CHEAPLY AS SINGLE TRANSPORTATION—HOW PASSENGER AGENTS HAVE BECOME THE SERVANTS OF THE PUBLIC — A RAILROAD THAT SUPPLIES CAMPING OUTFITS

BY

M. G. CUNNIFF

AMERICANS are nomads because American railroad trains are hotels on wheels. President Loree, of the Baltimore & Ohio, declares that the passenger business forms only "the frills of railroading," because, after all, the railroads exist to carry freight and not people. They make their profits from freight. Yet no other business enterprise in the world so lavishly caters to public comfort as the passenger department of a railroad. Freight rates have been reduced in recent years to figures that astonish foreigners. Passengers, paying as much to travel now—except on certain excursions—as they have paid for years, secure their share of railroad improvement in the augmented comfort, speed and convenience which the railroads provide.

The improvement has come about through competition. Not only have the railroads,

east and west, pursued every method of cheapening operation—which has been the chief gain of consolidation—but each has spurred the others to offer the public one facility after another to make traveling easy and pleasant. It has been the same story everywhere—a standard constantly raised by healthy competition.

One railroad will now sell a ticket in New York entitling the holder to railroad transportation for 400 miles at a speed unequaled elsewhere in the world, a steamship voyage of 800 miles on the Lakes, another railroad trip of 2,000 miles, another voyage of 8,000 miles to Australia, and return to New York by another route, with stop-overs anywhere along the route—and will act as guide, philosopher and friend throughout the journey. With but three changes one may go from Salt Lake City to Jerusalem. All the way on either trip the traveler may eat, drink, bathe, shave, smoke, read and write at any time he pleases. No other country provides such means of luxurious travel.

On a few of the best fast limited trains you may now lie and read in your bed by electric light. Though on other trains you go to bed in Cimmerian darkness, all the sleepers now building at the Pullman works are fitted with electric lights, so that when the present cars are replaced, electric bulbs will supersede Pintsch gaslights, as the Pintsch gaslights in a decade have superseded the kerosene lamps that followed the candles of the earliest "sleepers." You may now ride into Baltimore through the tunnel behind an electric locomotive. In the Hoosac Tunnel, the Sarnia Tunnel, the terminal tunnels as you enter New York or Jersey City, and in many others, you inhale more smoke and gas than is pleasant, but another decade will find electric locomotives in all: arrangements have already been made to use them on the railroads terminating in New York. The vestibule, which prevents "telescoping" in case of accident and keeps people from falling off on their way from car to car, now rounds its sheltering hood above the platforms of all through trains. It is not vain to expect it sooner or later on locals. Telephoning and wireless telegraphing from moving trains are now experiments; to-morrow they will be commonplace. Even road-beds are improving. Only four years ago one of the greatest railroads in the country applied the most recent engineering device for easing curves. All railroads will soon be equally considerate, as the present plans of track re-location are carried out. The Pennsylvania, for example, is going so far that, when its work is done, but a mile and a half of the original track between Harrisburg and Philadelphia will remain in use; and the new and slighter curves, of course, are eased. Safety devices so multiply, and cars are built so much stronger than they were ten years ago, that, though accidents are not uncommon, more people die every year by falling out of windows than are killed on railroad trains, and statistics show that a passenger would theoretically travel thirty miles a day for nearly two hundred years without injury. Passenger rates do not decline, but a new convenience is added to travel every day.

The railroads make the greatest efforts, however, to make travel a luxury in fostering the vacation rush. Watch a party leaving Baltimore for a camping trip to the mountains south of Harper's Ferry. They have a "club car," chartered at no additional cost. They pile into what looks like a clubroom, bare except for the furniture and the carpet; movable chairs stand here and there, and movable tables. Supplies are turned over to the porter in the end compartment; cigars are lighted; some of the party pull up their chairs to the largest table and begin a game of whist. Others gather fraternally in a corner of the car to overhaul their lines and trout-flies; still others busy themselves in the commissariat department; and laughing, whistling, singing, they are whirled away to their mountain station in comfortable and even luxurious seclusion. The car is a moving cafe.

Or stand in the station at Pittsburg when the Iron City Fishing Club is starting for its Adirondack preserve. The professional and business men, released from their labors, enter their special train of six Pullman sleeping-cars as light-heartedly as boys. The buffet car assures them of luxurious sustenance, and for the day and night they travel the train is as cozy as a suite in a New York hotel. Similar cars and trains run out of every important city in the country.

Or look into the second-class tourist cars of a transcontinental flyer at a prairie station. Whole families bound for Rocky Mountain resorts loll about on the wicker or leather

seats; one or two people are heating coffee on the range at the end of the car; three or four straw-hatted men are clustered smoking on the vestibuled platforms; heads project from the open windows: everybody is happy. In porter service and plush these people are not so well provided as the parlor-car passengers, but to discomfort they will not own. They contend that their berths are as snug as those in the first-class car behind.

Again, there is the magnate taking his family to the Adirondacks in a private car from the Grand Central Station in New York on a Saturday in May. The porter, with the "traps," has bustled in ahead of the *bonne* and the children and is now busy stowing the luggage away. The magnate's wife is settling herself beside the broad rear plate-glass window, and the busy man is dictating letters to a stenographer beside the centre table. The car will run upon a siding in the mountains. The family will live in it until desire comes upon them to move. The head of the family will return to the city the following evening, and every Saturday he will journey in one of the many extra sleeping-cars the railroad puts on for this purpose to stay with his family over Sunday. Of course the destination of but few of the city business men, for whom the railroad begins in the early summer to put extra sleepers on the Saturday evening up-trains and the Sunday evening down trains, is a private car in the woods, but the private-car vacation is not uncommon, and the "week-end" rush in the summer, which necessitates the added "sleepers," follows the waves of financial prosperity. This year it is greater than ever.

Every one of these varied conveniences for different classes of people, though not unknown ten years ago, has become common only in the last decade.

It was after the lull in business that accompanied the panic of 1893 that the railroads began on a large scale the additions to traveling convenience that are most in evidence today. These range from improvements in road-bed to the hiring of experienced journalists and sportsmen to write articles for advertising pamphlets, from electric generators on the car-axles to stewardesses.

Road-beds and tracks required improvements because the public demanded speed even on long and heavy trains. Fast limited trains came into vogue. Speed required heavy locomotives—say 160,000 pounds—and heavy locomotives meant not only that sixty-pound rails must give way to seventy, eighty or one hundred-pound rails, but that the ballast must be better drained, for it is wet ballast squashing beneath the ties that makes bumpy traveling. This made relaying necessary. Where the curves could not be eliminated they were eased. Mr. George Pullman once said, when asked the secret of easy riding, that the secrets are so many that no one can keep them. This is true, but the easing of curves is one of them.

Curves, no matter how slight, have always been laid as arcs of true circles. The outer rail is raised according to the sharpness of the curve and the estimated speed of trains that are to round it. A mile-a-minute train on a one-degree curve needs an outer rail five inches higher than the inner rail; a slower train, a lower elevation. It is clear from this explanation that a train going faster than the maximum for which the track is prepared would shoot off the rails. Conversely, a slower train than the one provided for would grind the flanges off its wheels. Any road must strike a serviceable average for trains of varying speeds, and engineers must nurse their locomotives around the curves as close to it as possible. That puts an inevitable check on high speeds. The Empire State Express once made a burst for two miles at the rate of 102 miles an hour on a straightaway section of track. A heavy curve would have shot the engine at that top speed a quarter of a mile 'cross country. On most roads, however, sixty miles an hour is quite safe, though very costly.

To permit such speed, the engineers of the last few years, in relaying tracks, instead of starting a true-circle curve with the sudden lift of the outer rail that causes the jolt and lurch that travelers know, have laid a slight parabolic curve from a point a hundred yards back on the straight track, and have elevated the outer rail imperceptibly along that curve to the maximum. The result of the device—in practice quite new—has been the annihilation of curves as regards a passenger's senses. With eyes shut he cannot tell whether the track is straight or curved. With well-drained ballast—and ballast is far better drained today than ten years ago—and with heavy rails and eased and adjusted

curves, high speeds no longer cause discomfort. The usual time between Chicago and New York has come down from thirty-six hours to twenty-six, twenty-four, and even on the two finest trains in the world to twenty, within very few years, and the trip from Chicago to the western coast has been cut twelve hours. Yet the faster travel is the easier.

In heating and lighting rapid advances have recently been made. On the finest trains electric lights are used, fed from a generator and a storage battery in the baggage car employing steam from the locomotive, or from generators on the axles. In other trains tanks of gas beneath the cars keep the Pintsch lights burning. The oil lamp has become a tradition. So has the ill-famed car-stove. Steam from the locomotive supplies the heat for hot-water pipes through the cars. The false prophets of a decade ago who declared that electric lighting and hot-water heating from locomotive steam would drain the locomotive of power could not foresee the results of larger locomotives on heavier rails.

It is in diversity of car-equipment, however, that the age excels. Railroads provide their own day coaches, and some of these for day riding are as comfortable as one could wish: the smoking-cars running north from Chicago, with their high-backed leather chairs, are certainly as pleasant as crowded Pullman smoking-rooms. The better cars, sleeping, observation, dining, buffet, compartment and other special types, except on the Great Northern, the New York, New Haven & Hartford, the Chicago, Milwaukee & St. Paul, and the Dominion and Atlantic, are owned and managed by outside companies—most of them by the Pullman Company, which builds a new car every day. This company has now on different roads nearly 4,000 sleeping-cars, 40 smoking, library and buffet cars, 130 observation cars, 75 compartment cars, 406 tourist cars, 19 special drawing-room cars, 29 "diners," and 27 private cars. Practically, it conducts a hotel business, maintaining its approximate monopoly because most of the railroads find its equipment cheaper and more effective than any they could furnish themselves. No railroad could supply the cars required for excursions and conventions—now so common a phase of summer recreation—without maintaining costly idle rolling-stock in the intervals between the heavy demands. A special company by good management can shift its cars to the points where they are needed.

The Pullman conductor is hotel clerk. Employees are kept courteous and obliging through a system of merit and demerit marks that covers the entire organization. Cars are cleaned at the end of every run, the bedding of the sleepers is changed, and if invalids have used a car it is fumigated with formaldehyde. The Pullman hotel is well managed.

Everybody uses the sleeping-cars at a charge based on $5 for a thirty-six-hour run, or $2, or even $1.50, for a day or night ride. A special sleeping-car may be hired for $45; and the railroad will haul it if assured of eighteen fares, or will even put on a special train of such cars if assured of one hundred fares. A private car, which assures complete seclusion and contains every facility for comfortable living, may be hired for $50 a day. Many men possess private cars of their own. Railroad presidents almost always use them. But the private-car business is by no means restricted. Such cars, hired for the service, are today taking families to the White Mountains from the southern States, are touring with theatrical and operatic companies, are carrying corporation officers on business trips of investigation, while the use of special sleeping-cars is so common as to deserve no comment. More of the private cars could be rented than the parlor car companies have at their disposal. The summer rush keeps every car in commission regularly employed.

The limited train, of course, shows the finest type of car equipment. A "limited" is a train that follows an accurate schedule, pulling out and arriving as nearly as possible at a stated time. It usually has a name—Congressional Limited, Pacific Fast Mail, Royal Limited, Sunset Limited, Black Diamond Express, Empire State Express—and on every trip the equipment is the same. The passenger may divide his time between his sleeper, the combined library, observation, smoking and buffet car, where he may use the railroad's library and magazine file, and write letters which, with a Government stamped envelope, he can post in the mail car ahead, the dining-car, and the comfortable

seats on the speeding rear platform. A bathroom is at his service, and a barber, for not the least of the luxuries brought about by modern equipment in the last few years is the possibility not only of writing but also of being shaved in comfort. On the two twenty-hour trains between New York and Chicago a stewardess is at the service of women passengers.

Some of the limited trains in the West have tourist cars and day coaches. Some have compartment sleeping-cars, in which every section is a stateroom, though such cars are most commonly used on "personally conducted" excursions. One may even hire a whole "limited" special train for $215 a day. In brief, by paying for it, a party of travelers may have any convenience on the railroad they might have on a private yacht.

With these luxuries of travel at their service, the railroads bend every effort to encourage travel—especially summer travel. The roads that run to the mountain and seaside resorts depend on the summer rush—and the spring and fall lesser rush for hunting and fishing—to make their passenger business profitable. The winter traffic is inconsiderable. One railroad running out of New York is said to make profits enough in summer to overcome a deficit due to the cost of operation the rest of the year.

Specialists are employed to write handbooks—for the railroads insist that their advertising pamphlets shall be reliable. Agencies are established to direct vacation seekers to recreation points.

The Grand Trunk and the Canadian Pacific own their own hotels and other roads have financial interests in hotels that are nominally owned by private individuals. Briefly, a citizen may enter a railroad ticket-office, have a vacation spot picked out for him, a boarding place secured and a guide chosen. All he has to do is to name the sort of fish he wishes to catch—the railroad will bring him most comfortably to the fish. One railroad, the Detroit & Mackinac, will even furnish camp equipments, because President Hawkes, a sportsman himself, decided one autumn day while he sat against a stump by a runway, that purveying outfits might bring more sportsmen over his line. If other roads do not yet provide such conveniences, at all events they will direct a passenger to a place where outfits may be procured. The larger railroads would more readily go to President Hawkes's length in catering to recreation seekers if it were not for the fact that a railroad company prefers to do strictly a railroad business. That is why baggage transfer across such cities as Boston and Chicago, where one gives one's check to a transfer agent on entering the city on one road and receives another when leaving on another road, is in the hands of a transfer company. Such branches of the passenger business as maintaining information agencies and conducting hotels, as the Grand Trunk does, for example, at Muskoka Lakes, are legitimate railroad activities because such enterprises can make profitable the lines the railroads run to recreation districts in every State in the Union.

The surest summer undertaking is, of course, the excursion—a modern development. On the day of an excursion from Pittsburg to Atlantic City forty extra sleeping-cars will frequently leave in a single evening. Twenty will leave Cincinnati or Louisville. Assured of full trains, the railroad will advertise special low rates for Philadelphia and Atlantic City, with stop-overs good for two weeks, and the people of the inland towns are eager to seize such opportunities. Nor does all the travel flow from the city to the city. Thousands of Chicago people take advantage of excursion rates to visit the Rocky Mountains, but thousands of mountain dwellers in New Hampshire and Vermont pack excursion trains to Boston, and up-State people to New York City. This is practically the only form of railroad traveling admitting of lower rates than those of ten or fifteen years ago. By urging many people to travel at one time the railroads are able to quote a rate often no greater than a one-way fare at usual times. "Tour" facilities, with yard-long coupon tickets good for all sorts of branch trips, is another feature offered to such summer travelers, as on the Alaskan tours of the Great Northern. The essence of the whole development, as Mr. Boardman, the editor of the *Railroad Gazette*, declares, is that a railroad passenger agent has changed from a designer of posters to a servant of the public. If there is any service to the traveling public that a railroad passenger agent fails to perform within the bounds of conducting his department at a profit, it is because he has not heard of it

RIDING THROUGH WILD FIRE

A THRILLING VACATION EXPERIENCE

BY

GRACE GALLATIN SETON

AUTHOR OF "A WOMAN TENDERFOOT"

IN the East one may jog along the allotted span with nothing more original than a banana-peel or a railway accident to threaten life, but in the Rockies one's opportunities to die are many—flood, fire, cyclone, quicksand, bog-holes in endless variety, and animals from "the quills upon the fretful porcupine" to the fighting elk, charged with his arsenal of polished ivory points.

It was on the third day out with the pack-train in the Bitter Roots last summer that we met with an adventure that shut out civilization and its memory like a wall and we put on our "nature mind."

Our trail lay through a great forest belt of yellow pine where a fire had been raging for days. A few forest rangers had been struggling with it, but they were only able to keep the greedy monster from extending its range on each side as it ate its way ravenously down the wind. The broad track of destruction two or three miles wide was saddening, tree giants lying prostrate in a smoking mass of children trees and forest growth, or, still upright, pointing a charred and maimed finger to heaven. The air was thick with flying ashes, and the flames as they leaped and crackled through the berry bushes and dead leaves, running along the ground and working along the tree branches that a moment before had been glorious with life, changed all things as at the sweep of a wizard's wand from a riot of color—brilliant greens, browns, orange and scarlet—to mourning, all the well-loved forms of the forest shriveled and twisted, draped in leaden grays and deepest black. What a vision of the underworld laid bare!

To cross it was like one of the labors of Hercules, but there was no way around; either forward, or retreat. Our guide had something of Napoleon in him, and this was evidently not his Moscow. So into this havoc, where the fire king had passed but had not yet wholly given up his reign, we plunged. We kept our horses on a smart trot, for the ground was burning hot. We each took two or three pack-horses to drive ahead to keep them "pushed along" better. The trail was nearly obliterated and we wound in and out trying to avoid obstacles. Suddenly I saw the animal in front of me give a great leap and put between us a huge burning tree that had just fallen. My horse, Flax, snorted, as well he might, when he saw the three-foot log with dancing flames its entire length barring the way like a high hurdle tipped with flames instead of boughs.

How were we going to get over that thing, which seemed alive with wicked tongues? But there was no time to be lost, and Flax took a high jump to avoid the flames, which, however, must have scorched him, as he gave a double jump and a short run upon landing, which was decidedly disconcerting. But I had not much time to think. There was a shout ahead, a stampede of animals, and another burning tree crashed across our path. Those falling trees were the greatest danger; at any time one might be felled to the earth. Flax and I took that tree on a trot and another just beyond. It was no place to linger. The air was electric; the wild, ringing Wagner fire-music sang in my ears. Where did that man get his inspiration! The same intoxication seemed to fill me as when I heard that music. Now the flames leaped this way and that; now they ran along a log, daintily feeding only on lichen; here they crawled treacherously through the gentle grasses, always in motion—this wonderful fire.

Brunhilde was not so much to be pitied—fire has great charm. I can understand the fascination it has for horses, and it played such erratic tricks! On my left I noticed the skeleton form of what had been a raspberry bush! Not a leaf was left—not a green bramble, but still in the very

heart of it was one ripe, luscious-looking berry, hanging like a ruby in the midst of ruin. How had it escaped—that one touch of beauty? And near it was another impish trick of the conqueror—a weird sight, indeed. A high white pine tree, so tall that its green branches waved triumphantly over the torment below, so sturdy and vigorous that its smooth bark had resisted the flames, but alas! of no avail. The enemy was eating its heart out. One side of its mighty base, five feet through, had been carved out as neatly as though fashioned by man for a fireplace, and here the flames crackled merrily, taking, as does the vampire, its treasure of life while the green plumes waved far above, as yet unconscious of their fate.

We had gone more than two miles, jumping, dodging, trotting and stumbling, our throats and eyes smarting from the smoke until the two miles seemed twenty, when I saw that we were leaving the region of living fire and passing through a city of the dead. It had been a forest of young pines from four to ten inches thick, their straight stems like organ-pipes, their luminous scales, reddish and yellowish on the bark, giving a colorful background to the crimson carpet of wintergreen and rosetips, touched by the frost, but now reduced to a sorry plight—a bewildering mass of charred sticks streaking upward like accusing fingers from those in torment. In my ignorance I was relieved, thinking we were "out of the woods"; but really this proved the worst of all, for the sticks toppled over without warning—a breath of wind, the vibration of the horses' feet—and piled themselves before us, upon us if we were not spry—a ghostly company without stability and threatening destruction to us at every turn. It was no use to get off the horses: better to stay on and say one's prayers and "watch unceasingly." My clothes had the general appearance of a zebra's skin from the charred wood, every separate muscle ached, my knees were bruised from encounters with the trees, which were very close together, but so far there had been no serious injury in the "outfit."

At last as it was growing dark and I had settled down to a certain grim endurance and had treated my nerves to a favorite tonic, the same being that remark of Shakspere's that "Cowards die many times before their death; the valiant never taste death but once," I heard a cheer ahead, which I knew must mean "Lost Horse Creek and camping-ground." Instantly my mind sped to that magic place of comfort—camp—where hunger and thirst and weariness would vanish. The picture was so pleasant that I quite forgot the very material part of me, which just at that moment was in danger of annihilation. But Flax, fortunately, was not imaginative, and saw that a six-inch tree was falling directly upon us. He quivered from head to foot and waited a second for the word of command that did not come; then he gave a great bound and stopped so short that I nearly shot over his head. Paralyzed with fear, I, too, saw the awful thing that was descending upon us. I jerked back, for that was not all—another sapling close beside, released by the fall of the parent tree, was coming also. We were between the two. Not having a woodman's eye, I did not know how they were going to fall—did not know which way to move. "When you don't know what to do, don't do it," is a mountain adage. I clenched my teeth and waited. There were shouts, but I could not pay attention. One instant of nerve-racking suspense, and the big tree crashed in front of the horse's nose. He started back in terror right under the falling sapling. I lashed him forward, and he plunged ahead just in time to escape the sapling, which descended with a crack upon his rump, within an inch of me, nearly bringing him to the ground. He recovered instantly and, wild with terror, started to run. As it was impossible to run and he was a mountain pony and knew it, he did the best he could with a series of jumps in that down timber, the repetition of which I can very well do without. I felt like one of the monkeys at the circus that are strapped on the pony's back—the pommel alone saved me from an ignominious and dangerous fall.

But we got out without further mishap, and after Flax had caught up with his mate, three horses ahead, and told her in a neigh or two all about it, he carried my tired bones to camp in tranquillity—camp, oh, the sweetness and peace of that nook in the mountain meadow, rich with grasses for the horses, the snow peaks far above, the intimate little brook fringed with willows gurgling in front of our tents, a group of great pines standing sentinel, and far above the twinkling sky of night—poor Easterners!

SCENE IN ILLEGILLEWATT GLACIER
Selkirk Mountains, British Columbia

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THE APPALACHIAN CLUB

THE ORGANIZATION OF MOUNTAIN CLIMBERS THAT HAS MADE THE APPALACHIAN RANGE ITS PLAYGROUND—A DAY'S CLIMB IN NEW ENGLAND

BY

RAYMOND STEVENS

FROM a little windfall clearing in the upper valley of the Pemigewasset—the largest stretch of virgin forest yet remaining in the White Mountains—I caught my first glimpse of Carrigan Mountain. I had been deer-trailing during the warm Indian summer day and was surprised to see the top of the mountain in wintry white. Straightway I desired to see how the world looked from that snowy peak—for the long, densely wooded slope, rising steeply and gracefully at the summit, looked easy to climb.

The walking was easy at first through the rather open growth of large spruces; then as the mountain grew steeper the way became rough and filled with great moss-grown boulders. The trees became smaller and denser. There were frequent windfalls half grown up again with small firs, through which I crawled, and slipped and climbed as through a succession of brush fences. I rapidly became short of breath, leg-weary and dripping with sweat. The forest had dwindled and dwindled till now it was nothing but scrub spruces, growing very near together with their small branches rigid and closely interwoven. This is the most difficult obstacle to be met with in climbing in the White Moun-

Photographed by Chester D. Moses

EARLY MORNING ON THE PEAK OF "WHITEFACE," IN THE ADIRONDACKS

tains, for walking on their tops—though a haphazard, uncertain, slippery progress—is possible.

Finally I crawled, sometimes on all fours, and then again, where the branches came close to the ground, by that method which puzzled the prophet—the way of a snake on a rock. Once under, there was no way up or out save by reaching some open space. This stretch of scrub seemed interminable, but at last, completely covered with snow and wet through, I crept out from under the last tree and stood once more upright. I found myself quite unexpectedly almost at the very top of the mountain.

There was an unobstructed view in every direction. Mount Carrigan lies in almost the exact centre of the White Mountain region. Most of the peaks were strange to me then, but I recognized Passaconaway and Chocorua in the south, the Franconia Mountains in the west, and the Presidential range in the north. The valleys were filled with heavy purple shadows and mist. Snow covered only the tops of the highest summits, and these were rose-pink in the setting sun. Behind and above the Presidential range a great bank of clouds, rose-tinted also, gave at first glance the impression that the peaks themselves soared into the very heavens. Scarcely a clearing or any mark of civilization showed in the landscape, and I felt as if I had discovered a new country and had stood where no one else had ever stood before.

Turning to leave, I noticed a little post about a yard high with a box attached to the top. I approached it curiously. There was a door in one side, and within, an iron cylinder six inches long, the end of which unscrewed. Inside this was a roll of paper, inscribed, "Appalachian Mountain Club Register." Below appeared a list of some fifty names, of women as well as men, who had climbed Mount Carrigan that season. Apparently it was not much of a feat, after all.

I knew that the women, at least, had not ascended by the route I had—there must be a path down the Saco Valley side. The snow, however, obliterated everything, and I was unable to find any indication of it. I struck off, however, toward a logging-camp to the south. By the time I had reached the lower slopes it was already night, but a full moon gave light enough to see by. When I reached the camp the boss said:

"You can stay here if you *want* to, but you'll find better quarters at the mills six miles down the stream. The company's railroad runs all the way. It's down grade and the lorry car will take you down."

I found the car—just a single set of trucks, with a platform about seven feet square. I kicked out the trig, gave the car a push and jumped on. The grade was easy at first, but the car kept gaining speed till it flew. It was most exhilarating. Soon I was going so swiftly that I thought it time to apply the brake,

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CLIMBING CLIFF CAÑON

but my sense of pleasure melted when I discovered that there was no brake. I shot over a bridge; whizzed around a curve with two wheels in air, out of the woods and down a steeper grade still, when I suddenly realized that the mills were just ahead. I jammed the butt of my rifle between the wheels and the iron brace where the brake should have been. Fortunately it worked,

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A CREVASSE IN ILLEGILLEWATT GLACIER

Selkirk Mountains, British Columbia

and the car came to a stop so suddenly that I was thrown to the ground just a few rods behind a log train. My rifle was broken, but I had ridden six miles in eight minutes and come to no harm. This ended a one-day's mountain climb.

The next day I reclimbed the mountain by the Appalachian Mountain Club path. Since then I have climbed dozens of the remoter peaks of the White Mountains and everywhere I have found traces of the club.

Even mountains that could not, like Carrigan, be climbed in an afternoon, but necessitated camping preparations for an all-night stay in some fragrant hemlock grove before beginning in the dawn renewed clambering over rocks and through scrub, were capped by a little mound and the tell-tale cylinder. Some were as wild as they were before the white men first came up the Intervale, and some, the farmers on the stony hillsides declared, had never been scaled; but members of the Appalachian Club before me had seen the miles of tumbled purple mountain ranges from their summits. Of course none of the New Hampshire mountains soar high enough to be more than a day's fair climbing, but on some it were better to go slowly. The Appalachian Club, however, is yearly making the sport less difficult.

Mountain climbing as an organized sport or recreation dates from its founding in 1876. At that time even the White Mountains were a largely unexplored wilderness. Scores of summits were even unnamed. Inside of ten years the whole region had been carefully and systematically explored; every mountain climbed, and its height and location accurately taken. The club has built and maintains more than eighty miles of paths and six permanent camps for the use of tourists and walkers in general. Remote ravines, waterfalls and peaks that would otherwise be seldom visited are now enjoyed by thousands.

The club has also explored the Adirondack Mountains and the Southern Appalachians so thoroughly that there is no longer any mountain exploration left to be done east of the Mississippi River.

Mountain climbing throughout all the Appalachians from Mount Washington to Mount Mitchell in North Carolina has no real difficulties. Any one with good legs and lungs can climb them summer or winter, with practically no danger. The only thing to be feared is a sleet storm with high winds, such as raged for a day and night on Mount Washington in the last of June, 1900, when two men, both good climbers, died of exposure and bruises within a few minutes' walk of the Summit House. But if not especially difficult, this kind of mountain climbing furnishes exhilarating exercise amid scenery unsurpassed for wild and striking beauty.

Those who like more strenuous climbing and grander mountain scenes go west to the Rockies and Sierras. In spite of their great height, the mountains lying within the United States proper offer no real Alpine climbing; but the northern end of the Rockies, through Canada and Alaska, very much resemble the Alps. There are peaks fully as difficult. The Alps are all accessible, but these British-American ranges lie in an uninhabited wilderness, and even those near the Canadian Pacific Railroad often require a hard day's walk to reach their bases. They are clothed in eternal snow and great glaciers. There are sheer cliffs thousands of feet high; towering peaks, like Assiniboia and Sir Donald, precipitous on every side. The scenery even surpasses the Alps in desolate grandeur. Guides have been brought over from Switzerland, and here every summer members of the Appalachian Club and famous Alpinists from Europe spend their vacations, attempting and overcoming virgin peaks.

The Appalachian Club is more than a mere climbing organization. It was founded "for the advancement of the interests of those who visit the mountains of New England and adjacent regions, whether for the purpose of scientific research or summer recreation"; and in its magazine, *Appalachia*, are not only interesting accounts of its explorations, but also a large amount of valuable scientific matter, on comparative geography, geology and botany. It has published many maps and guide-books. Its library contains more than 1,300 maps and 1,500 volumes of scientific books, Alpine literature and books of travel. It has done much also to develop an interest in the country immediately around Boston.

It is safe to say that no single organization has had more influence in the movement of city people to the country for health and recreation; nor accomplished so much to make the beauty of our mountains known and their wildernesses accessible.

A SUMMER'S "ROUGHING IT"

THE STORY OF A SINGLE LONG VACATION

BY

WALTER CAMP

THE average American has a strain in his blood coming down to him through rugged ancestors that gives him an unquenchable lust for uncivilized places. In these days, however, everything is becoming civilized, from the Indian to football. I remember my friend, Fred Remington, the artist, who, by the way, used to play on one of my football teams and formed a sturdy bulwark in the line, stopped me on the street in New York not long ago with this plaint: "Camp, you're not going to civilize the only real thing left, are you?"

It is a difficult problem to convince a good healthy collegian of the advantages of home comforts. I remember well that, with the usual youth's enthusiasm for discovery and roughing it, two of us started out to camp on one of the islands in Long Island Sound known as the Thimbles. We had had no experience. It was rather early in the summer, and a cool northwest breeze led us to select for a place to pitch our canvas a little hollow nicely sheltered from the wind, which was freshening along toward sundown. The first night we slept well. The following morning we caught blackfish off the rocks, and our cooking was not unsuccessful. By afternoon we began to believe ourselves quite capable of supporting life thus indefinitely, and we swelled with pride and pleasure. Toward evening the wind shifted to the eastward and by the middle of the night it began to rain. As we had placed our tents so that we occupied the very cistern toward which the watershed from all sides directed the flow of the torrent, we only escaped drowning by abandoning our position and perching upon the rocks, exposed to the wind and rain for the rest of the night. We were glad to return home in the morning as soon as we could get there.

That was my first experience, and it made me rather more moderate in my desires for the rest of the summer. As the greater part of the vacation was still before us we determined to make up a party and try Nantucket. We started from the city on the train which, after one change, landed us at that relic of old whaling days, New Bedford. We spent the night there, although it was not necessary, because I had an old friend, an Englishman, who kept a hotel, and although I think he always lost money at it, he made it a most hospitable inn for his friends. The next day we took a boat (this particular one was a side-wheeler that happened to have seen service in war times) for Nantucket. The boat stopped first at Wood's Hole, where memories came over me of having dined on board the Government boat *Fish Hawk* with Captain Wood at a time of considerable excitement over the running down of a Government boat by a coal schooner in Vineyard Sound. From Wood's Hole on to Cottage City, a place where the excursion basket, the hot peanut, the roller-skating rink and Methodist camp-meetings divided the hours. Leaving that pier behind, we started out for better freedom, and just as the sun was sinking and we were beginning to think of dinner, we ran up into a little sheltered opening and, crossing over the bar, moored at Nantucket. I suppose this place, too, of late years has become civilized, but then it was only just beginning. There were hotels, but the "off-islander" was not yet strong enough to subdue the spirit of the native born and bred. The town crier was still a real thing, and he had not been written up. Other old customs prevailed enough to make one feel that it was not all put on for effect or to catch the dollar of the visitor. There was a narrow-gage railroad over to Surf Side, which seemed like a toy affair and which was not above stopping at points not on the schedule.

We had secured in advance a house, which was turned into a college mess with one of the men to cater. I do not know just what we

did or how the day was filled up, but I know that we had tennis courts, and after tennis came a swim, and by that time a man was so hungry for luncheon that he could hardly wait to get dressed. In the afternoon we played baseball, more tennis, sailed boats and fished. Perhaps, however, the one thing that stood out and which I shall remember the longest was a night's experience with something I had learned to do a few years before, namely, heaving and hauling for bluefish. To those who have never tried it, I will say that it consists of standing on the shore with a bluefish line, to which is attached a long squid and hook, and after whirling that squid a few times over one's head to acquire momentum, it is shot out over the surf. When it falls and reaches the full length of the line the fisherman pulls it rapidly in hand over hand or rather hand under hand, thus giving it the effect of a swimming fish, and if there are bluefish out there there is a chance of their taking it, and of your taking a fish. I say there is a chance of this, for I remember my earlier experiences had not been eminently successful. However, at the expense of sore fingers and a lame arm, I had at last acquired the knack of getting the line out far enough. Hence when my friends proposed a trip of this kind I was quite ready for it.

We had so much to do during the daytime that we never succeeded in getting over for the day. So it was determined to have a go at it at night. We went over twice. The first night we were fairly successful, getting half a dozen good fish. The second night it was pretty dark and we had taken two fish, both of them coming on my line, probably because I was more experienced and got the line out farther than the others. But at any rate, things were getting rather dull when, after a cast, I felt something strike, and from the stroke thought I had on a good-sized fish. But almost immediately the line slackened, not enough to show that I had lost him, but, as I supposed then, enough to show that he was not a very big one, and, more than that, was swimming up with the line. I pulled faster, lest he should unhook himself, but was not particularly interested until I felt a pull like a horse, which absolutely stopped my hauling in for a second. I called out to the man next to me, "I've got a big one this time," and then my attention was too much taken up for further remarks. He came along, sawing from side to side, and when he set back I feared for the line. Just before he reached the surf he made one break, and the splash thereof was enough to make me think that I had caught the real king of bluefish this time. As he came through the surf I ran down into the water, in my excitement and interest to land him safely, and by this time two of my three companions were about me ready to give aid. As he came splashing in he looked at least twelve feet long, but not quite the shape and make of a bluefish, as one can imagine; for as we beached him he proved to be a shark, and although not fully the twelve feet that he had looked, he did actually measure more than nine feet in length. He was neither as useful nor as valuable as a bluefish of five pounds, but he was far more interesting.

Three weeks of this sort of life had, however, soothed the wounds of our earlier camping-out experience, and it began to seem rather dull and unexciting. Nearly a month remained of the long vacation, and my friend and I started off, leaving our less enterprising comrades to finish out the season in sleepy old Nantucket while we went down East.

We went over to Vineyard Haven on the Island of Martha's Vineyard and took a boat there which eventually carried us to Portland, Maine, where we had intended to go into the woods. The spirit of the sea was upon us, however, and in a moment of more than usual adventure we shipped on a lumber schooner as common seamen. Ever since then I have been endeavoring to forget those few ghastly days. I shall not enter into details, as it would be too harrowing. We were both familiar with boats and had no difficulty in getting the job. We were out two days and two nights, and early on the third morning we deserted, swimming ashore at a point near Portsmouth.

At Portsmouth we expended our remaining money in enough clothes to enable us to get on the train, and in tickets and a telegram to Boston, where we had friends. I must confess I was never quite so glad to get into civilization, a hot bath and clean clothes as upon that occasion, and for a time at least my longing for roughing it was entirely satisfied.

FICTION FOR SUMMER READING

THE fashion in fiction has changed. Buff jerkins and active swords have yielded to sober modern appurtenances, and any haphazard armful of recent novels packed up for vacation hours will inevitably contain enough storied contemporary life, both American and English, to make novel reading a better business than it was in the reign of the swashbuckler. Frank Norris, whose latest novel, "The Pit," is the most dramatic and powerful of those now widely read, once pleaded earnestly that novelists should transcribe the life they see and know—today they are doing it.

Mrs. Humphry Ward, translating Julie de l'Espinasse into fiction as Julie le Breton in "Lady Rose's Daughter," pictures vividly a Becky Sharp stifling a passionate nature under duties of companion to an autocratic Countess until hunger for freedom of spirit leads her into a forestalled escapade which results in her marriage to a tiresomely virtuous Duke. The story is Mrs. Ward's undoubted acme of achievement, and it satisfies one's demands of a novel better than any other recent book. J. M. Barrie, too, maintains his level of distinction in "The Little White Bird." He weaves a new spell around Kensington Garden in a quaint and fantastic but very human narrative of a middle-aged bachelor who watches the development of a love drama from the window of his club. The watcher's whimsical avoidance of the heroine of the love affair until her little son effects an introduction is touched with the simplest of quiet humor. "The Star Dreamer," by Agnes and Egerton Castle, is a graceful love story with many of the bewitching qualities of the old-fashioned English garden in which it takes place. There is sunshine in it.

Robert Hichens, in "Felix," goes into dark places, mercilessly baring a corner of London society wherein the morphine habit in all its ghastly horrors works unhappiness immeasurable. The book is very clever; it has atmosphere; it commands a fascinated interest, but it is horrible. A new book by George Moore might suggest more unpleasantness, but "The Untilled Field" is really a well-written series of short stories, dealing with neither peasants nor aristocrats wholly, but conveying a composite impression of the most significant aspects of life in Ireland—the priest looms as large as the captain of industry in America. Turn from these to "The Four Feathers," by A. E. W. Mason, for a story of adventure and human passion in which the hero redeems by acts of courage in Africa the four white feathers sent to him as insults for fancied cowardice—a story, simply a story, and a very good one.

And there is much entertainment in "Youth." Joseph Conrad chants that deliberate dreamy style of his through the book in three of the best short sea stories published in many a day. The tragedy of a man alone against the great immensities—sea and tropical forest—with an undermining weakness, the note of "Lord Jim," is the *motif* here, insistent and compelling. E. W. Hornung abandons Raffles and Bunny for a short narrative of social intrigue, involving an army officer, who tries to save an ingenuous youth from the snares of a widow and is caught himself. "No Hero" is slight but bright. And brightness is also the recommendation of "Elizabeth's Children." The pranks of the three little sons of Elizabeth of the "Visits" have so many quaint turns that laughter dances along the book's pages, not blinding, however, a sympathetic curiosity in the love story of Elizabeth's old sweetheart. Then there is "The Turquoise Cup" to round the list of English books. A dainty little volume contains two delightfully artistic tales by Arthur Cosslet Smith. A cigar will measure the length of the book; the reader will see in the smoke a serene and courtly Italian cardinal abetting an English and Irish love-match, and an Arab trader following love across dun stretches of Sahara sand.

Choice among recent American novels depends on what section of the country the reader desires to spend his reading hours in, though two books meet success in sketching characteristics broadly American. David Graham Phillips, in "Golden Fleece," escorts an heiress-hunting English Duke through Boston, New York, Chicago and Washington society until, rejected by a clear-eyed, wholesome Chicago maiden unblinded by the glitter of a coronet, he goes home at last to marry an English girl who is "comfortable." It is a satirical, clever novel with all the earmarks of unpleasant truth; the four cities will recognize themselves. Mr. Phillips is becoming a novelist to reckon with. Likewise James Weber Linn. In his latest novel,

before the Middle Western background of a college town, a young lawyer, marrying the niece of a genial but vulgar millionaire, gradually alienates his wife by a kind of sentimental lying. The scope of "The Chameleon" is intentionally restricted, but typically American traits are revealed in every character.

Miss Edith Wyatt's amusing "True Love," unlike Mr. Linn's sympathetic study, puts the sentimentalist—of the sham-culture type—in foolish postures to laud by contrast hard-headed practicality and bluff sincerity somewhat unduly—producing caricature, though interesting caricature. As a political novel, dramatically interweaving a human story of love with the machinations of New York State politics, "The Henchman," by Mark Lee Luther, is the best thing since "J. Devlin Boss"—a character-study showing insight, and a revelation with the value of a document. "The Rise of Ruderick Clowd," another of Josiah Flynt's researches in criminology, is also pinned close to fact. It is the life story of a criminal from his illegitimate birth to his final decision that crime is not a paying business—a vivid illumination of life in the under world. Stewart Edward White in like manner tells in "Conjuror's House" of life he has known—of the human passions swaying men and women on the far shores of Hudson Bay. A free trapper defies the monopoly of the Hudson Bay Company and is condemned to be marooned in the wilderness, where death is inevitable, but winning the factor's daughter in swift love passages, is reprieved. The feeling of the great North is in the book, the vastness of the country, the feudal power of the Company, the passion of life close to fundamentals. And readers who fail this summer to enjoy the triumph that Churchill Williams has scored in "The Captain" will miss the best picture of General Grant yet drawn—the Grant who silently carved his way to Vicksburg. It is a stirring novel, which fulfils the high promise of "J. Devlin Boss."

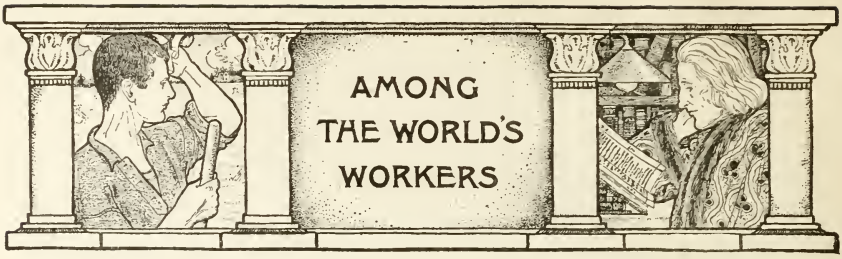
Of books in which the story is the thing, Justus Miles Forman's "Journeys End," which tells of an impecunious but aristocratic Englishman, who writes a successful play in New York, and wavers between his love for an English girl and his love for an American actress until the reader is left to guess which he chooses, has the charm of crisp phrasing and a clever plot—a book with all the elements of success. "The Blue Goose," by F. L. Nason, deals with strenuousness in a Western mining camp; there is battle, murder and sudden death, a love affair not too well handled—in brief, a red-blood story for jaded minds which demand no subtlety of artistic finish. "At the Time Appointed," by A. Maynard Barbour, has similar elements. An Eastern mining engineer meets happiness in the Far West after very troublous experiences. "Roderick Taliaferro" is a swift drama of Mexican intrigue against a heroic young American, who ultimately triumphs over the plotter—not a book to be neglected.

Two very clever books, of an excellent sort for summer reading, are "A Girl of Ideas," by Annie Flint, and "The Modern Obstacle," by Alice Duer Miller. The first is an amusing story of a girl whose novel is rejected by the publishers and who achieves a preposterous success in selling ideas to authors. The other has some sparkle in hitting off characters. It is the story of a New York girl hesitating between riches without love and love with poverty.

A fresh, clean, wholesome story of college life is Ralph Henry Barbour's "Land of Joy," wherein Harvard life is deftly painted, and the two love affairs—one in sunny Virginia in vacation time and one in Boston and Cambridge—have all the romance that belongs to youth. There is southern atmosphere. too, in "A Tar Heel Baron," by Mabell Shippie Clarke Pelton, not a book to spend time over, but one in which a reader may follow for brief entertainment the adventures of a German Baron settled in North Carolina. "The Substitute," Will M. Harben's new Georgia novel, is firmer and better in plot and handling with interesting characters and the smack of Georgia soil. Elmore Elliot Peake's "The Pride of Tellfair" possesses also no little southern charm. Two sisters of an old southern family bring the witchery of French New Orleans to a little town near Chicago.

If one insist on reading historical romance, Robert Chambers's "Maid-at-Arms" can renew the pleasure that "Cardigan" gave. The early days of the Revolution in central New York give opportunity for forest runners, Indians, patroons, soldiers and fair ladies to make a brilliant setting for one especially commendable youth and one specially fair lady, whose company is good for many stirring pages. "Cornet Strong of Ireton's Horse," by Dora Greenwell McChesney, a romance of Cromwell's time, beginning in the colonies and changing to England, has the merit of a complicated plot to sustain the interest.

Sewell Ford, in "Horses Nine," becomes the historiographer of nine workaday horses. The feeling of "Black Beauty" is in the book, and no reader of it can fail to feel kinder toward an animal whose life is always a tragedy.



SURGERY IN GERMANY AND IN AMERICA

A YOUNG surgeon who went to Germany four years ago to complete his studies in pathology recently returned to this country. He makes this interesting comment on national differences in the profession:

"It's science over there; here it's the business of healing. Here one gets the elementary things in college, learns more in hospital and in general practice and turns the knowledge into money. The average American practitioner would be out of place over there. With them it's study, study, study from the time they receive their degree until they die.

"At the hospitals or meeting-places they talk nothing but shop. I have known a group of German doctors to leave their dinner half eaten to visit a case under discussion. They are the worst possible practitioners, for they are interested only in technique. I knew a man who went to a German physician with a pain in his leg. That doctor spent an hour each day for five days studying it, and after that time he knew all there was to know about that pain, but he didn't stop it. In this country we would have treated it and thought no more about it except to congratulate the patient in a few days on getting well. They don't care for the patient. He is only a specimen. I heard a doctor say perfectly mechanically that he hoped one patient would die so that he might learn some fact from the autopsy.

"They call American surgeons copyists. Wherever the charge is true, it is merely that Americans turn to practical service the theories they study. But undoubtedly they are doing a great work. One man, it is reckoned, has added thirty thousand years to human life by his discoveries. There is no commercial end for them to gain, so that their work, their science, must be their only aim."

The difference aptly illustrates the general difference between our "practical" ways and the ways of German learning.

THE FIRST WOMAN'S HOTEL

THE first woman's hotel has been opened successfully in New York. There had been two previous experiments; one was a failure and the other limits its patronage. The Hotel Martha Washington, however, seems likely to be the first of a large number of hotels made as exclusively to fit feminine tastes as are the hundreds of bachelor apartment houses to meet the needs of men.

This new hotel is twelve stories high and cost approximately $750,000. It accommodates five hundred guests. One hundred rooms are reserved for transients. Many single rooms rent for $3 a week, others for $4 and $5. The transient who pays $15 a day and the woman who makes the hotel her home and lives in a $3 a week room have the same service. The only difference is that between a suite and a single room.

After the hotel had been planned and part of the capital subscribed there was a period of doubt. Mr. Charles D. Kellogg was the secretary of the company, and one of his daughters, home for a visit, went out to help him raise the money needed. She obtained $71,000 between six o'clock Saturday evening and ten o'clock the next Monday evening, and assured the success of the project. Both men and women are stockholders—Mr. John D. Rockefeller as well as Miss Helen Gould.

Meals are served for $5 a week, without luncheons. Of the women who are permanent guests of the hotel, ninety-five per cent. are breadwinners, and most of the others are living on money that they have earned. And this is the service for which the hotel was especially planned—to provide a home for working-women.

WHAT A PATENT DID FOR A MAN

MORE than ten years ago a man obtained a patent on a very simple improvement in the making of a kind of pulley by which it could be made more cheaply. He lacked the capital to manufacture it and he tried to sell it. He went from one large manufacturer to another,

and each thanked him and refused the patent at any price. One day he interested a man who, in the end, put nearly all the ready money he had into the project and bought the invention at a very low price. The man was not a manufacturer.

He made a contract with a large manufacturing concern to make the goods for him and to ship them by the barrel on order to the purchasers. He interested a number of traveling men who were able to sell the pulleys on commission. Then he rented a little office and began his business. The other day he sold the tools which made the pulley for a sum only slightly less than the original amount he paid for the patent and tools together—the patent right has recently expired. In these few years he has made from his little office a considerable fortune from this simple invention at which many wise manufacturers shook their heads. It is only a single bit of evidence of the way in which American pluck and energy and common sense obtain results.

A DEPARTMENT STORE THAT EDUCATES ITS EMPLOYEES

IF before half-past nine o'clock in the morning you could go to the employees' lunch-room on the top floor of a certain department store, you would find adjustable partitions hung on hooks in the ceiling, and the lunch-room converted into classrooms in which girls from thirteen to eighteen are receiving instruction in the elementary branches, business practices, physical training. If you were privileged to visit other parts of the store which as a customer you never visit, you would find some two hundred and fifty boys receiving similar instruction. If, after the store's closing hours, you should visit the same classrooms and some of its various departments, you would find the senior boys engaged in study, or hear the strains of the piano, mandolin, bugle, beat of the drum, or the voices of the glee club. This unique college is known collectively as the Commercial Institute.

When a boy or a girl enters the employ of this store, it is with a distinct understanding with parent or guardian, and the employer virtually makes this proposition:

"I will give your child mental, physical and moral training at my own expense, and pay him for his time, in order that he may serve me better and be a better citizen."

The Commercial Institute was organized about seven years ago. The initial enrolment was fifty cash boys; now the enrolment is about six hundred. The girls and cash boys—there are no cash girls here—have two morning sessions a week, from 7:30 to 9:30, because these hours do not require them to be out at night, while the older boys meet twice a week in the evening from 6:30 to 9:30. The store closes half an hour earlier than any other department store in the city where it is situated, so that employees have more time for rest and for improvement.

Scarcely have the sounds of the bugles died away that announce to customers and employees the closing hours of the store, before some two hundred and fifty boys and their twelve teachers begin to file into the store's basement restaurant, where they find a substantial lunch awaiting them, so as to save them the time and expense of leaving the store for it. Thus, the restaurant that has been thronged all day with buyers suddenly becomes converted into a sort of college dining-hall.

At 6:30 lessons begin in arithmetic, writing, spelling, composition, grammar, free-hand drawing, singing and physical training. Every student is required to study writing, grammar, arithmetic (including practical knowledge of the metric system, banking, handling commercial paper and book-keeping) and physical training. Other studies are elective.

Special attention is given to physical training. Every boy and girl of the institute is measured and has prescribed exercises under a competent instructor. The data obtained from these measurements are recorded on a chart, and at the close of the school year a remeasurement is taken to show the improvement made and still required.

Physical training is made attractive to the boys by dividing them into military companies and using the United States Army setting-up drill. Uniforms, a drum and fife corps of some thirty pieces and good drilling enable them to make such an admirable military appearance in public that they have won more than one prize in competition for military honors. The Cadet Corps, as they are known, own their own camping outfit.

In the latitude allowed for study under this splendid system of trades and commercial training the employee may develop on the lines of his natural ability and talent. In other words, the round peg is not put into the square hole; individuality is not repressed, but developed, for if an employee is musical he may become more so; if he has artistic tastes he may develop them through drawing, designing, decorating; if he has commercial instincts he has the benefit of instruction in the

most practical business college in the world, where he learns by doing.

Monthly certificates of every pupil's standing in studies, in physical training, in conduct, in attendance are sent to his parent or guardian for signature; and employees are taught to save as well as to earn money, the "Junior Savings Fund" having about five hundred depositors.

In addition to this certificate, every cash boy has a record card, which also is sent to his parent monthly. For omissions in promptness, in courtesy, in cleanliness, in attention to store duties of all kinds, his section manager marks his card. If these records of the institute and store persistently reflect on an employee's ability and service he is very apt to find need for another position.

The spirit of rivalry, the reward of promotion and the elevation of character which generally ensue from this method of education and individual supervision have reduced dismissals to a minimum.

Graduation means promotion; then the college button is replaced by that of the alumni association, and through this association graduates are kept in touch with the college work of the store.

A DEPARTMENT-STORE LEAGUE OF WOMEN

The educational advantages of this store are not, however, limited to its junior employees. The women employees have coöperated through what is known as the "Women's League."

The girls receive instruction in languages, music, shorthand and dancing. The benevolent features of the "Women's League" afford protection in financial distress or aid during illness. It is maintained through weekly contributions of every employee of the store. The woman at its head travels hundreds of miles weekly to minister to the needs of disabled employees scattered over the city and has had as many as two hundred and fifty in one week on her sick list.

For employees disabled through long service, or age, an endowment fund is provided by employer and employees.

A resting-room furnished with easy chairs, couches, tables; a library of about 4,400 volumes in charge of a librarian, and a retiring-room in charge of a trained nurse, for those taken ill during store hours and who may need prompt medical attention, are among the other evidences of consideration shown employees. There is no charity in the idea. The employer receives full payment in the better service his workers are able to give. In the meantime, boys and girls are being fitted for better careers than would otherwise be possible for them.

THE TEST OF NAVAL EFFICIENCY

THE true test of efficiency of our warships does not lie in speed, coal endurance or vexing formulæ, but depends almost entirely upon the rapidity and accuracy of gun fire. "Gunnery, gunnery, gunnery," says the first Sea Lord, "is of extreme importance," and the leading navies of the world are today making such efforts to improve their shooting that it is not too much to assert that the greatest progress in naval development in the last year has been in gun practice.

The impetus was given by the first published reports of the battles of Manila and Santiago, when the impression spread abroad that the Americans possessed the secret of shooting straight. The outcome was a mechanical contrivance invented by Captain Scott of the English Navy called a "dotter," by which a small paper target drawn to scale is caused to move in front of a gun with a combined vertical and horizontal movement. While the target is in motion the gun pointer endeavors to train the gun so as to keep the cross wires of his telescope on the target. Whenever the cross wires are "on," an electric connection causes a pencil to make a dot on the target, the dot representing a real shot on a real target at a thousand yards. Thus the men are accustomed to train the guns under the disturbing conditions of a ship in a sea-way.

The result of this training has produced results almost marvelous; in a comparatively short time green men were taught to fire the heavy guns with great precision. A six-inch gun on the *Crescent* made 105 hits out of 139, at a target about 1,500 yards distant, the average of hits per gun per minute being 4.37. The 9.2 gun made nine hits out of ten at a range of from 1,400 to 2,000 yards. On board the *Terrible* one of the 9.2 guns fired twelve rounds in six minutes and hit the target nine times, which is 1.5 hits per minute.

Other foreign nations guard more jealously the results of their gun work, but it is known that all the great navies are working to this end, the central idea being to train men to point and fire guns under the sea conditions, and doubtless in the next naval battle the percentage of hits will be far in excess of any yet recorded, which is another way of saying that future naval battles will be of shorter duration, but more destructive.

ONE OF THE THIRTEEN HUNDRED OR MORE LAKES IN THE ADIRONDACK MOUNTAINS

A NATIONAL PLAYGROUND

6,000 SQUARE MILES OF IDEAL RECREATION COUNTRY IN NORTHEASTERN NEW YORK—THE LAKES, MOUNTAINS AND FORESTS OF THE ADIRONDACK MOUNTAIN REGION ADAPTED FOR EVERY SORT OF OUT-OF-DOOR AMUSEMENT

WHEN cities were mere enclosed bits of country in which houses were sparsely planted there was little need to make journeys to nature; then every house was surrounded by meadows, or at least some greensward. In those "good old times" the need of universal recreation was not recognized, and the men and women worked until they were worked out. They got little pleasure out of the good, beautiful earth on the way.

With the growth of the cities and the driving back of the wilderness, and with the increase in the intensity of business and social life, people have learned to appreciate the outdoor life in Nature's strongholds.

In the northern part of the Empire State is the nation's playground, a group of lakes and mountains, of streams and forests that a whole corps of lake poets could not adequately describe.

For years the Adirondack Mountain region was known only as a great lumber country, its well-nigh impenetrable fastnesses invaded alone by the man with the ax and by trappers; then, as the cities grew and the vacation habit took stronger hold, sportsmen and campers, under the leadership of guides, penetrated the wilderness.

And so the Adirondack Mountain region was discovered and the city-worn—the searcher for the restfulness of Nature, the sportsman, and those who go for the fun of the thing—entered the forest glades, launched canoes on the clear lakes, and climbed the steeps. Fashion put its stamp of approval upon it, and great resort hotels made its unspoiled beauties accessible.

The railroads, always sensitive to the public pulse and realizing the growth of the vacation habit, recognized in the Adirondacks a great national playground, and, like the pioneers of old, opened up the country for those who were to follow and be refreshed by deep draughts of its clear mountain air.

In the northeastern part of New York State lies the Adirondacks, a region that seems to have been planned for a recreation place, since it is naturally fitted for every sort of outdoor life. The eastern part, that lying along lakes Champlain and George, is very mountainous, a series of ranges extending about forty miles westward from Lake Champlain that are practically uninhabited.

W. A. Boger

HIGH FALLS, AU SABLE RIVER
In the Eastern Adirondacks

The mountains, rising tier on tier, are almost beyond numbering, and the names have entirely run out; it is estimated that there are five hundred separate peaks, each individual and possessing a charm of contour or of rugged rock-masses or of thick forest growth all its own.

To the west lies that wonderful series of lakes and mountains the like of which cannot be found the world over. More than 1,300 lakes (some authorities make it 1,500) nestle at the foot of the mountain slopes. Fed by springs and mountain streams that have never known pollution, the lakes are as clear as crystal, and stocked with fish the mere mention of which makes the blood of the true fisherman run the faster.

The lakes and the tributary streams, with their fishing, boating, canoeing and fresh-water bathing opportunities, attract thousands of lovers of outdoor life every summer, and so the great hotels were built on the shores of the lakes to supply the demand.

Branching off from the main line at Utica, the Adirondack division of the New York Central & Hudson River Railroad heads straight for the national playground. It is only a short ride to the first of the great series of lakes that dot the whole western section of this wonderful region. Steamboats ply on many of the lakes, and by the use of the canoe it is possible to pass from one body of water to another and penetrate the forest fastnesses.

Trending gradually northeastward, the steel rail penetrates farther and farther into the "North Woods" and out beyond the Canadian border to Montreal. From the stations along the line stages run to the hotels and camps on the lakes. The railroad line is hemmed in by the forest on either side, and as the traveler moves swiftly along in his Pullman from New York or Chicago, he looks into natural cathedrals the columns of which are the thickset trunks of trees. Dazzling glimpses of blue lakes and flashing streams brighten the panorama spread out before the traveler, and the rugged or rounded peaks of the mountains tower up, the background of every picture.

Railroad enterprise has made it possible to take a Pullman at any of the chief cities and travel in it to the heart of the great North Woods.

The Adirondack region is bounded on the east by those beautiful lakes—almost inland seas—Lake George and Lake Champlain. They are fitting boundaries to a marvelously beautiful region.

Northward from Albany runs the Delaware & Hudson Railroad, by which the mountains and lakes of the nation's playground are reached from the east and south.

Beyond Saratoga, which lies in the foothills of the Adirondacks and is rightly considered part of the region, the Delaware & Hudson line runs northward, skirting lakes George and Champlain. From Plattsburgh, on Lake Champlain, a spur running in a southwesterly direction reaches Ausable and the famous Ausable Chasm. At Plattsburgh, also, connection is made with the Chateaugay Railroad, which penetrates the heart of the mountain ranges and reaches by a most picturesque route running west and south the lake region and the resort hotels among them.

The Delaware & Hudson line beyond the Carlsbad of America, Saratoga, runs near to the shores of Lake George and very close to Lake Champlain. Indeed, frequent glimpses through verdant valleys of this great highland lake may be had from the

car windows; and at times broad, unobstructed views of the beautiful waters bearing many white-winged vessels and swift steam craft are spread in full view of the train.

Though the country through which the lines pass is wild and the forest leaves barely enough room for the track to go through, all the comforts of a through Pullman service is at the command of the traveler.

It is one of the marvels of the day that a man can travel with utmost comfort through Nature's wilds into the heart of a verdant wilderness and find every comfort and convenience in the hotel at his destination.

At Bluff Point, on the western shore of Lake Champlain and on the line of the Delaware & Hudson Railroad, *Hotel Champlain* looks over the historic waters. Steeply rising from the water's edge, the brow of this point commands a view of lake and wooded mountains that makes one disinclined to move from the broad piazzas or even from one's own window. The opportunities for outdoor recreation, however, are too attractive to make the visitor content with mere passive existence. The nearby lake affords the lover of the water almost unlimited inducements to work off his enthusiasm. Here it is that the famous Green Drive winds in and out through the trees of the 800-acre park connected with the hotel. This fifty-foot driveway is paved with green velvet turf trimmed close and as perfect as any lawn. Golf there is, of course—a fine 18-hole course; and the Adirondack mountains that rise a short distance back of the hotel attract the driver and those who like the intimate touch with Nature that pedestrianism gives.

The social life is one of the features of this great resort hotel; *Hotel Champlain* is but a short distance from the new cavalry post, Fort Ethan Allen, and the routine of out-of-door sports is varied by the brilliant drills of the soldiers. In addition, the proximity of the United States Military Post adds zest to the social life of the place.

On the opposite (or western) side of the Adirondack Mountain region is the lake country that has been compared to the lake country in the highlands of Scotland.

On the line of the Adirondack branch of the New York Central, and also along the line of the Chateaugay Railroad, which is operated by the Delaware & Hudson and connects with the main line at Plattsburgh, the mountain lakes are strung in an almost continuous chain; clear, full of fish and affording splendid opportunities for canoeing, the outdoor life of this section is alluring beyond the telling.

Lake Placid is one of these, situated in the very heart of the Adirondack Mountains; it is a great pool, calm and smooth, and in strong contrast to its rugged surroundings

W. A. Boger

FROM THE SUMMIT OF MOUNT WHITNEY

Showing Lakes Placid and Mirror, in the heart of the Adirondacks

On the side of Mount Whitney, overlooking Lake Placid, *The Ruisseaumont* is ideally situated even for the Adirondack region, where there are so many beautiful sites. With the lake directly in front but a stone's throw distant, and the slope of the mountain behind, a golf course near at hand and tennis courts on the hotel grounds, the guests of *The Ruisseaumont* have an embarrassment of riches of out-of-door recreations to choose from. The mountain invites one to explore its natural mysteries; narrow trails, leading from the hotel, wind in and out among the trees, the waving branches overhead casting changing shadows on the verdant underbrush. It is ideal country for tramping. Many drives radiate from the grounds over mountains and to other lakes, and frequent excursions can be made without duplicating. The clear, dry, invigorating air is sure to produce an appetite that the *chef* is as sure to satisfactorily appease. One of the features of this beautiful resort hotel is the cottage life. Connected with the hotel are many cottages whose rustic architecture harmonizes perfectly with their surroundings. These are much in favor with families, and the whole resort is the gainer by reason of the consequent pleasant social life.

On the strip of land separating Placid and Mirror lakes *The Stevens House* commands a magnificent view of both and of the surrounding mountains. Indeed, it is difficult to say too much of the pictures spread before the beholder at this point—adjectives are found altogether inadequate. Many mountain heights are within easy reach of this house, and Mount Marcy, the greatest height of the Adirondacks, is but a short distance away.

The guests of *The Stevens House* have the advantage of boating on either lake—hotel craft are kept on both, and all danger of monotony is thus effectively removed. On the same neck of land on which the hotel is situated the green turf of a perfect golf course is spread, so that the players can be clearly seen from the piazza. This same strip of undulating plateau also contains ample room for several tennis courts and a diamond, where many matches of the good old American game are fought out each season. In fact, the land between the two lakes is a sort of playground or athletic field, upon the green turf of which the grand old mountains, sitting like dignified Indian chiefs wrapped in the green blankets of their forests, look down in grave but approving silence. With lakes on either side, a natural athletic field in front, and trout streams near at hand, drives and walks leading in every direction, the guests of this great hospitable resort hotel are never at a loss for entertainment to match any mood.

From the east, west, north and south through Pullman service is maintained to the chief destinations in the Adirondacks.

For the information of the readers of The World's Work who wish additional detailed facts about the hotels and railroads the following names and addresses are given: New York Central & Hudson River Railroad, George H. Daniels, General Passenger Agent, New York; Delaware & Hudson Railroad, J. W. Burdick, General Passenger Agent, Albany, N. Y.; Hotel Champlain, E. L. Brown, Manager, Care Lincoln Safe Deposit Company, Forty-second Street, New York, until July 1st; The Ruisseaumont, T. Edmund Krumbholz, Manager, Lake Placid, N. Y.; The Stevens House, J. A. & G. A. Stevens, Proprietors, Lake Placid, N. Y., or F. H. Schofield, Metropolitan Building, New York.

ON LAKE CHAMPLAIN